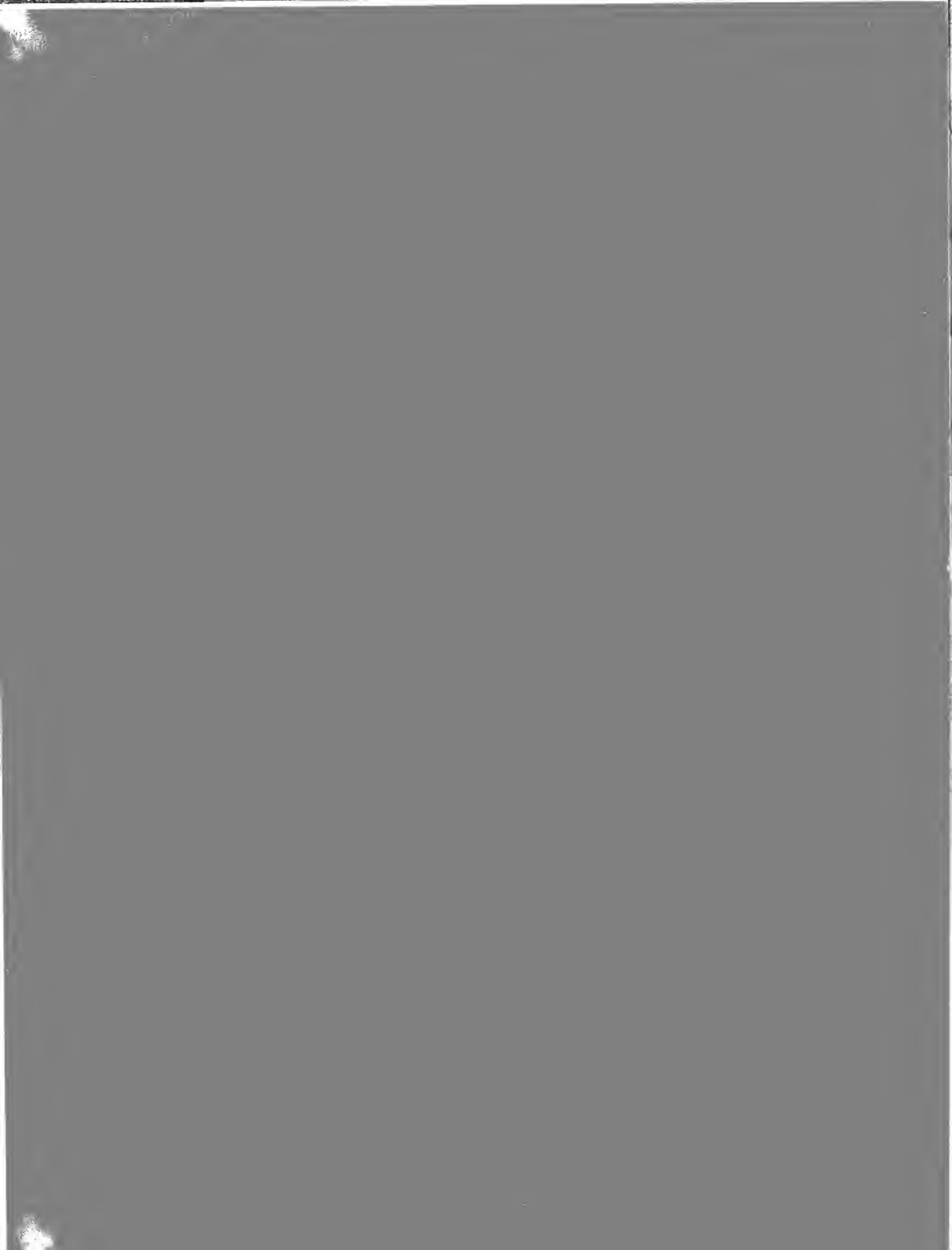




89 annual report

Office of the Director

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Intramural Activities

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NATIONAL CANCER INSTITUTE
Office of the Director
Annual Report
1989

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The Frederick Cancer Research Facility (FCRF) located in Frederick, Maryland, is a Government-owned facility which is operated as a Federally Funded Research and Development Center (FFRDC) under a system of five contracts.

Recompetition of these contracts was accomplished by September 26, 1987 and awards made to: Bionetics Research, Inc. for Basic Research; Program Resources, Inc. for Operations and Technical Support; Harlan Sprague Dawley, Inc. for Animal Production; and Data Management Services, Inc. for Computer Support and the Library Support functions.

Overall responsibility for the FCRF lies with the Associate Director for FCRF, OD, NCI, with NCI management operating through a General Manager/Project Officer and a Contracting Officer. During the current reporting period, there were approximately 350 government employees and 1300 contractor employees located at FCRF.

A wide variety of research activities are carried out at the FCRF by both Contractor and NCI intramural personnel. In addition, Government-operated laboratories associated with the NIAID and the NINCDS are housed at the facility. A chartered FCRF Advisory Committee meets twice a year to evaluate the overall operation of the facility and conducts peer reviews of programs under the Basic Research Contractor; the Committee also evaluates services provided in other contract areas. The Committee's evaluations and recommendations are submitted to the Director, NCI, who holds final decision-making authority.

Laboratories within the Basic Research Program are reviewed every three years, with approximately two reviews being held each year. In November 1988, the Laboratory of Chemical and Physical Carcinogenesis was reviewed in depth in a two-day meeting. The Laboratory presentations consisted of the Mechanisms of Nitrosamine Carcinogenesis Section, the Chemistry of Carcinogens Section, the Molecular Aspects of Chemical Carcinogenesis Section and the Carcinogen-Modified Nucleic Acid Chemistry Group. In May 1988, a two-day review of the Mammalian Genetics Laboratory was conducted. Laboratory presentations consisted of the Molecular Genetics of Oncogenesis Section, the Molecular Genetics of Development Section, the Molecular Embryology Working Group and the Cell Biology of Development and Differentiation Working Group. The Advisory Committee and ad hoc review members held discussions in Executive Session following each review to develop recommendations for any changes that would broaden the scope and enhance the utilization of expertise within the Laboratory areas.

The FCRF Advisory Committee also was briefed on changes in the Laboratory of Eukaryotic Gene Expression that had been implemented based upon a prior review by this Committee. The new Crystallography Laboratory of the Basic Research Program is now fully operational with Dr. Alexander Wlodawer as director and several staff members occupying newly renovated space.

Two new groups were initiated in the Basic Research Program during the current reporting period.

The Eukaryotic Transcriptional Regulation Group, under the direction of Dr. Peter Johnson, in the Molecular Mechanisms of Carcinogenesis Laboratory, conducts research on mammalian transcription factors and the molecular basis of tissue-specific gene expression.

The Cell Biology of Development and Differentiation Group under the direction of Dr. Peter Donovan, in the Mammalian Genetics Laboratory, conducts research on the development of the mouse germ line, germ line mutations, cell adhesion molecules, and cell-extracellular matrix interactions.

Several important research findings were made in the Basic Research program during the current reporting period. The chicken oncogene, ski, has been studied in order to learn more about the oncogenic potential of this gene, and to try to elucidate the normal role the gene plays in development. They have recently shown that transgenic mice that express a truncated chicken c-ski oncogene develop abnormally large muscles. This suggests that c-ski may not only be an interesting and important oncogene, potentially important in human cancer; but, that it may also be possible to use ski to produce domestic livestock (pigs, chickens, or cattle, for example) that have more meat than the strains of these animals currently being grown on commercial farms. They are currently studying the effects of ski on muscle development in the mouse model system, and have just begun a series of experiments to evaluate the effects of ski expression on muscle development in the chicken.

A novel common viral integration site in murine myeloid tumors, designated Evi-2 was recently identified and it appears to encode a novel cellular proto-oncogene involved in murine neoplastic disease. The human homolog of Evi-2 was mapped to human chromosome 17, band q11-q12 near the locus encoding van Recklinghausen neurofibromatosis (NF1). NF1 is one of the most common inherited genetic disorders identified in humans. Two NF1 patients have been identified that carry constitutional chromosome 17 translocations that either break within or very near the NF1 locus. Interestingly, Evi-2 maps between the two breakpoints and identifies apparent breakpoint fusion fragments in DNA of both NF1 patients. The suspected role of Evi-2 in murine disease and its chromosomal location in humans identified Evi-2 as a candidate for the NF1 gene.

Several lines of transgenic mice carrying an Amy-2.2 (amylase) promoter fused to the early region of SV40 virus were developed. The Amy-2.2 produces a high frequency of pancreatic acinar cell tumors in transgenic mice. The Amy-2.2 promoter requires insulin for its expression; by treating mice with streptozotocin one can render mice diabetic reducing amylase expression to near undetectable levels. This ability to regulate SV40 T antigen expression during tumorigenesis provides a unique model system for identifying genes that are important in the progression and development of pancreatic acinar cell tumors.

Preliminary data indicate that met proto-oncogene probes may prove useful for diagnosing human stomach cancer. The met proto-oncogene was activated in five out of five human stomach cancer cell lines by either amplification or an autocrine stimulation mechanism.

The structure of the Rous sarcoma virus protease, a dimeric enzyme, was recently determined and shown to be an aspartic protease. These results were used to build a model of the AIDS virus protease. The model is now being used in many laboratories for the design of specific inhibitors for the protease of the AIDS virus. In addition, with the aid of the supercomputer the complete 3-dimensional structure of the HIV protease was determined.

It has been shown that the mos proto-oncogene is expressed predominantly in the germ cells of vertebrates, indicating that this gene plays a role in the regulation of germ cell maturation and/or early embryonic development. Utilizing new technologies which can block the function of normal genes within specific cell types, normal mos product function can be interrupted in developing germ cells. This is the first example demonstrating that a proto-oncogene contributes to a developmental process in vertebrates and provides the opportunity to identify the specific targets of the proto-oncogene product as well as understanding its role in regulation of a normal developmental process. Thus, the mos product plays a role in activating G₁/M transition and suggests that transformation is due to expression of phenotypes which usually occur during mitosis, being expressed during non-mitotic portions of the cell cycle. This result can lead to new strategies for targeting tumor cells.

The National Cancer Institute's Supercomputer Center located at FCRF continues to mature competently having completed its third year of operation. This facility, organizationally known as the Advanced Scientific Computing Laboratory (ASCL), is supported by the Division of Cancer Biology and Diagnosis to provide state-of-the-art computing support to the scientists of the NCI, NIH, and DHHS, in addition to researchers from other institutions working in collaboration with the NCI scientists. The current number of researchers using the computational facilities exceeds 400 individuals. The supercomputer is now playing a major role as an instrument for basic research in structure analysis of drugs and macromolecules, in sequence analysis of pathogenic genes of humans, viruses and other organisms, and in a variety of new areas of biomedical research. It is anticipated that advanced molecular computational methods coupled with computer graphics and the supercomputer will enhance the design of new improved therapeutic agents. In the past year, the supercomputer has played a key role in the 3 dimensional structure determination of biologically significant molecules such as the RSV and HIV proteases paving the way for design of potent inhibitors to viral replication.

During the past year, several buildings have been renovated in support of FCRF programs. The Developmental Therapeutics Programs (DCT) in vitro cell

screening program for identifying potential anticancer drugs is now fully operative in Bldg. 432. Large numbers of compounds are being evaluated in standardized test systems. The Natural Products Extraction program for identifying new drugs and biologicals is continuing with shipment of raw materials entering the repository and extraction protocols being developed and tested in the Chemical Synthesis and Analysis Laboratory. The natural products extraction and isolation chemistry efforts and the NCI screening program for development of anti-AIDS drugs is now operational in Building 431.

The outpatient unit of the Clinical Research Branch, Biological Response Modifiers Program, DCT now occupies space in a newly renovated building close by Frederick Memorial Hospital. This unit greatly expands the efforts of the BRMP to test novel biologicals alone and in combination with drugs. Building 426, which is centrally located at FCRF is now occupied by the Environmental Control and Research Program which includes the Environmental Control Section, the Occupational Health Services, and Protective Services. Also located in this building are the travel bureau and the Credit Union. A new feed and bedding warehouse is now operational in support of the Animal Production contractor, Harlan-Sprague Dawley, Inc. In response to an increasing number of requests from NCI intramural scientists, plans are being developed to design and upgrade the Fermentation Production Facility consistent with the manufacture of bulk pharmaceutical products under Good Manufacturing Procedures. This will provide FCRF with the needed capability to speed the transfer of therapeutic agents from the laboratory to the clinical setting for intramural scientists.

Several contractor programs continued to expand in response to requirements from NCI and NIH staff. A new capability in human genetic analysis using the technology of molecular biology was added to seek correlation between genetic markers and various disease states, including AIDS. This activity is in support of the NCI Division of Cancer Etiology. The Laboratory of Cell and Molecular Structure has increased capability in DNA sequence analysis through a direct link-up with the ASCL and has expanded its shared service capability to produce transgenic mice in collaboration with the Laboratory of Animal Sciences Program in support of the NCI Division of Cancer Biology and Diagnosis.

The Operations and Technical Support contractor continued to provide major assistance to the Institutes and other AIDS programs. The Biological Products Laboratory has been involved in producing large amounts of virus initially used as seed stock for drug companies to produce HIV test reagents. More recently, virus production has continued for the production of viral components in vaccine preparations. Immune responses to the HIV envelope proteins have been evaluated in Rhesus monkeys and chimpanzees with the gp120 formulated in immune stimulatory complexes (ISCOMS). Studies are underway to determine the efficacy of the immunization in preventing infection. Within the Laboratory of Cell and Molecular Structure, the Flow Cytometry Group has evaluated the immune status of chimpanzees challenged with HIV after various immunization protocols, the Molecular Studies Group

has completed sequence analysis of several lentivirus isolates and the applied Genetics Section has developed a sensitive and specific assay using polymerase chain reaction to detect human and mouse retroviruses and several human DNA viruses. The AIDS Laboratory within Clinical Immunology Services has performed sequential studies of immune function in AIDS and ARC patients during treatment with a variety of antiviral and immunomodulatory agents to assess the mode of action of these agents as well as determining optimal therapeutic strategies to restore immune function. The Nucleic Acid and Protein Synthesis Laboratory has expressed the HIV-2 nef protein as a full length gene product in bacteria and successfully expressed HIV-2 env proteins in bacteria to develop specific reagents for diagnosing HIV-2 infection. Working with the Laboratory of Tumor Cell Biology, the Recombinant DNA Laboratory is constructing recombinant DNA clones capable of expressing several mutant HIV-1 tat gene proteins in bacteria. The Fermentation Production Facility and the Chemical Synthesis and Analysis Laboratory continue to provide valuable support in the production, purification and evaluation of the HIV reverse transcriptase and integrase proteins for the Basic Research Program x-ray crystallography studies. During this reporting period, a contract was awarded to the Primate Research Institute to provide chimpanzees and attendant animal health and diagnostic capabilities to evaluate AIDS vaccine preparations for the NCI.

The FCRF continues to serve a key role in support of NCI intramural programs located at Frederick, MD and those in Bethesda, MD. The facility is in a dynamic state with operational and technical capabilities as well as the physical operation constantly assessed to provide the most state-of-the-art science and meet the changing needs of the NCI in efforts against cancer and AIDS.

OFFICE OF PROGRAM OPERATIONS AND PLANNING (OPOP)
OFFICE OF THE DIRECTOR
NATIONAL CANCER INSTITUTE
Program Activities Report
October 1, 1988 through September 30, 1989

The Office of Program Operations and Planning (OPOP) is responsible for the planning, evaluation and legislative functions of the Institute and prepares or coordinates the preparation of special as well as regular, periodic reports on the Institute and its activities. Additionally, the OPOP provides direct support to the Director, NCI, in the form of analysis, advice, and assistance in the decision making process and in developing, documenting, implementing and monitoring policy and operating decisions including decisions of the NCI Executive Committee and the NCI Director's Semi-annual Budget and Planning Meetings.

OPOP coordinated NCI participation and comments on two GAO studies: **CANCER TREATMENT National Cancer Institutes Role in Encouraging the Use of Breakthroughs and BREAST CANCER Patients' Survival**. Comments on the Health Care Financing Administration (HCFA) draft Notice of Proposed Rulemaking entitled **Medicare Program; Criteria and Procedures for Making Medical Services Coverage Decisions That Relate to Health Care Technology** were submitted to the Department.

OPOP coordinated NCI communications with HCFA regarding the new benefit for screening mammography included in the Medicare Catastrophic Coverage Act of 1988. NCI provided information on risk factors for breast cancer and quality standards for equipment and personnel. Additionally, OPOP played a lead role for NCI in discussions with the PHS and the Office of the Assistant Secretary for Planning and Evaluation regarding the design and conduct of a study required by this law of possible coverage for home use of drugs and biologics not yet approved by the FDA.

PLANNING AND EVALUATION

Planning activities include strategic and implementation planning at the Institute level, providing assistance to the Divisions in planning for specific programs and participation in NIH and Department planning activities. Staff directs planning meetings; participates as members of planning teams organized to develop specific program plans; works directly with program and administrative personnel in the development of operational plans; maintains liaison with program personnel; provides periodic consultation and directs efforts, as requested by program leaders, to revise and update both program and operating plans; and works closely with the financial management staff during the budget preparation to correlate budget preparation with existing plans. Evaluation activities include developing and maintaining a comprehensive file of Institute evaluation activities, providing technical assistance in the design and implementation of evaluation projects to be contracted out, as well as developing in-house evaluation projects.

Specific planning and evaluation activities during the past year are described below:

Coordinated NCI's participation in the NIH Director's Planning Session. High priority areas of science presented were: cancer suppressor genes and lung cancer; studies of tumor-infiltrating lymphocytes; targeted toxin molecules as a new approach to cancer therapy; Smoking, Tobacco and Cancer Program; heterocyclic amines and cancer; radon and lung cancer; intramural laboratory and research program for nutrition and cancer; molecular genetic linkage map of the mouse genome; and genetic applications in cancer diagnosis.

In addition, the following program issues likely to be raised at the FY 1990 Appropriations Hearings were identified: gene therapy using tumor-infiltrating lymphocytes; status of NCI collaboration with the Idaho Nuclear Engineering Lab (INEL); status of patient recruitment and clinical trials accrual efforts; status of funding for cancer centers; status of the National Cancer Advisory Board's review of the Cancer Centers Program; Institute of Medicine study of cancer centers; status of NCI/NCNR nursing/oncology initiatives and NCI Nursing Clinical Training Program; status of systematic efforts to involve nurses in NCI programs, advisory boards and committees; the NIH Diagnostic Radiology Coordinating Committee; responses to the GAO report on breast cancer and adjuvant therapy; NCI responses to the GAO report on NCI's role in encouraging doctors to use breakthrough therapies; status of US/USSR Collaborative Research Program; Senate Appropriations Committee report outlining funding and programs necessary to maximize cancer prevention and control program outcomes; use of NCI FY 1989 construction funds for repairs and maintenance at Frederick Cancer Research Facility (FCRF); update on STOP CANCER campaign; update on NCI health and behavior research; NCI black and minority health efforts; cancer information for minorities; studies of cancer risk factors in minorities; NCI Cancer Prevention and Control Programs for black and other minorities; and update of the National Committee to Review Current Procedures for Approval of New Drugs for Cancer and AIDS.

Coordinated NCI's participation in the NIH Director's AIDS Planning Session. The following topics were presented as high priority areas of science: AIDS-related Kaposi's sarcoma; selective killing of HIV-infected cells by recombinant CD4 *Pseudomonas* exotoxin hybrid protein; pediatric AIDS; and preclinical AIDS drug screening. Submitted program issue paper on adequacy of FTE availability for AIDS work as a subject likely to be raised at FY 1990 Appropriation Hearings.

Responded to several requests concerning human fetal tissue use in NCI-supported research projects. Compiled a report and inventory of FY 1988 research projects for the NIH Director. Responded to questions from the Office of the Inspector General regarding policies for human fetal tissue use in research. Prepared a report on current DHHS policies regarding use of fetal tissue for the Director, NCI. Tracked NCI staff involvement in Inspector General's survey entitled "Controls Over Utilization of All Fetal Tissues--PHS," by requesting interview summaries from participants. Continued to serve as liaison between OD, NIH, and the NCI for all Institute correspondence related to fetal tissue use.

Performed an analysis of rehabilitation activities at the NCI, also noting projects that seemed relevant to the NCI's legislative mandate for rehabilitation activities but were not currently accounted for under this rubric. Organized a committee to review current (GENIUS) definition for "rehabilitation" to ensure the most comprehensive accounting of relevant NCI activities and to address legislative compliance. A new GENIUS definition encompassing a broader range of activities was developed and used to recode all NCI projects. For OPOP Legislative Liaison, wrote a paper on NCI rehabilitation activities used to brief Congressional staff.

Prepared two case studies on health care cost savings resulting from NCI-supported applied research and clinical trials for use by NIH Director and others. Cost savings for cisplatin chemotherapy use in testicular cancer were detailed in one report, while the second report estimated savings derived from early detection of melanoma.

Provided information from NCI for inclusion in NIH reports regarding: neurotoxicity-related projects; a federal inventory of FY 1988 population research supported by NCI; the impact of clinical trials on health status and cost savings; the DHHS Interagency Task Force on the Uniform Ambulatory Care Data Set; and the 1988 report to Congress on the scientific and clinical status of organ transplantation.

Prepared report regarding NCI AIDS research targeted toward women for the NIH Advisory Committee on Women's Health Issues. Also responded to Congressional request for information on NCI AIDS research in women through PHS Coordinating Committee on Women's Health Issues.

Provided OD, NIH with highlights of scientific advances for the FY 1990 Congressional Budget Justification. Highlighted areas were: (1) immunology--included summaries of anti-T cell monoclonal antibodies to modulate the immune response, uromodulin to modify the immune response, and up regulation of MHC I expression; (2) drug development--included summaries of tumor-infiltrating lymphocyte studies, treatment of hairy-cell leukemia, chemotherapy for advanced stage bladder cancer, and adjuvant therapy of breast cancer; (3) vaccine development--included summary of preliminary studies of a retrovirus vaccine; (4) biotechnology--included summaries of immunotoxins as anticancer agents, cloning and expression of genes for individual cytochrome P450 enzymes, radiolabeled monoclonal antibodies to detect tumor-bearing sites, and immunoconjugates cytotoxic to specific human tumor cells; (5) AIDS--included summaries of possible synergy of HIV and HBLV, AIDS-related Kaposi's sarcoma, and soluble and cytotoxic CD4.

Prepared inventory of archived planning files located in OPOP. Record descriptions included: NCI program planning files; Diet, Nutrition and Cancer planning files; Smoking, Tobacco and Cancer planning files; DCT planning files; Detection and Diagnosis planning files; Organ Sites Program planning files; Occupational Cancer planning files; Special Virus-Leukemia Program planning files; Chemoprevention planning files; DCPC (formerly DRCCA) planning files; Screening (detection and diagnosis) planning files; National Cancer Program strategic planning files; and AIDS planning files.

Assisted Management Information Systems Branch in preparing the NCI's 5-Year

IRM Strategic Plan for FY 1991-95, by reporting on strategic and tactical plans of the NCI's programs.

Identified and analyzed issues related to the development and production of therapeutic agents for clinical testing. The proposal recommended improving dissemination of information on available resources coupled with selective augmentation of existing programs and included the following issues: budgeting for preclinical drug development; potential pitfalls of ad hoc use of individual procurements/CRADAs; DCT drug development program capacity; knowledge of clinical agent development requirements; radiolabeling for clinical studies; access to patients; and CRADA development. Options were proposed to address each issue for discussion at the June 1989 NCI Director's Meeting on Program Plans and Budget.

Provided background information and other relevant documents to the Institute of Medicine, acting as the NCI liaison for the IOM Committee to Study the Cancer Centers Program of the National Cancer Institute. Liaison activities included attending committee meetings, providing policy statements and other information, and editing and commenting on drafts of final report. Also served as focal point for developing and conveying NCI's comments on the IOM report to the NIH for DHHS clearance.

Continued reviewing the Cancer Centers Program under the aegis of the NCAB Subcommittee on Cancer Centers, for which the Planning Officer is Executive Secretary. Completed action on new criteria for comprehensive cancer centers.

Assisted the Deputy Director, NCI, in developing and implementing the activities of a committee to develop a 5-year plan for the Cancer Centers Program. The Planning Officer is Deputy Chairperson of this committee.

Developed a computerized data base for tracking the action items arising from the Congressional Appropriations Hearings, the semiannual NCI Director's Meetings for Program Plans and Budget, and Executive Committee meetings.

Provided staff support for the NCAB Planning and Budget Subcommittee, for which the Planning Officer is Executive Secretary. The Subcommittee's activities included reviewing and approving the 1991 By-Pass Budget assumptions and providing advice to the NCI on other budgetary issues.

Prepared the NCI Evaluation Plan for FY 1990 and 1991. Provided an overview of evaluation activities within the NCI. Below are highlights of ongoing and completed NCI program evaluations or evaluation components of larger projects.

Ongoing Evaluation Projects:

Community Clinical Oncology Program (CCOP) Phase II Evaluation This project seeks to identify the critical elements for a successful CCOP II, a continuation of CCOP I that will include cancer control research activities. Specific questions are being addressed concerning incentives for primary care physicians to participate in cancer control research; how to mobilize the necessary patient population and expertise to implement cancer control

research; and how to change physician practice patterns, and thus improve the health status of the community.

Office of Cancer Communications (OCC) Program Evaluations Several evaluations of OCC-sponsored programs are being performed including: process and impact evaluations of OCC cancer education programs; a process evaluation of the tracking activities of the Information Projects Branch; a case-study evaluation of the National Cancer Advisory Board's Public Hearings concerning cancer prevention and control at the community level; an evaluation of the Clinical Trials Accrual Project; and a case-study evaluation of the Spotlight City and the Cancer Prevention Awareness Program (CPAP) for black Americans.

DCPC Mammography Consortium Studies Studies involving a mammography consortium of six community-based research centers will evaluate intervention strategies designed to improve the frequency and quality of mammography screening and physical breast examination in women aged 50 and over. Multiple research designs for impact evaluation will be used to assess interventions which target, among others, women aged 50 and over, primary physicians, and radiologists.

Black/White Survival Study A study evaluating the disparity between black and white cancer patient survival is underway. A 3460-case cohort, comprised of equal numbers of black and white cancer patients is being followed to assess the survival benefit attributable to each of the following factors: knowledge, attitudes, and practices regarding cancer prevention and early detection; dietary behavior; utilization of health services; prompt and accurate clinical evaluation; appropriate therapies and evaluation of the histopathologic differences between black and white cancer patients.

DCPC Clinical Trials Impact Three statistical models will be used to study the impact that two breakthrough clinical trials for Hodgkin's disease and disseminated testicular cancer had on survival by analyzing data from the Connecticut Tumor Registry and NCI's Surveillance, Epidemiology, and End Results (SEER) program. These models will allow tracking of the information dissemination, and the data generated will identify the factors responsible for the speed of dissemination and the effective utilization of new therapies.

Physician Data Query (PDQ) Evaluation An evaluation was performed to develop recommendations for modification and improvement of PDQ. Physicians and their information intermediaries were the focus of this evaluation, which used surveys, automated usage data, user panels, and focus groups. The evaluation report included recommendations concerning search service vendor accountability, computer interface, data base content, training and education, and marketing and publicity.

OCC Program Evaluations A Master Evaluation Plan was developed to evaluate OCC programs including: the Cancer Prevention Awareness Program for Black Americans; Giant/NCI Consumer Nutrition Education; Breast Cancer Education; Patient Education; and the National Knowledge, Attitudes, and Behavior (KAB)

Survey. OCC will use the results of the evaluation projects for guiding overall policy and program management.

International Cancer Information Center (ICIC) Information Products and Services Evaluation An evaluation of ICIC products and services was performed concerning users and potential users. The evaluation identifies changes that will allow ICIC to better provide its subscribers and users with the information they need, and also identifies ways to heighten awareness among potential users. The evaluation report describing the results and their implications is going through close-out procedures and will be used as an internal reference for development and promotion of ICIC products and services.

Proposed Evaluation Projects for FY 1990-1991

The following projects are under development for implementation by Planning and Evaluation staff of OPOP and relevant program staff:

Evaluation of Outstanding Investigator Grant: Phase I
(Development of methodology)

Evaluation of Bilateral Program of the Office of International Affairs (OIA) Staff of OPOP and OIA are developing evaluation criteria for the Bilateral Agreement Program based on an evaluability assessment completed in 1989.

Evaluation of P01 Peer Review Processes
(Joint study with OSPL, NIH)

Evaluation of Effectiveness of ICIC Products and Services

Other Evaluation Activities:

Wrote NCI section for "HHS Guide to Evaluation and Policy."

Other Staff Activities Included:

Represented OD, NCI, at the NCI Chiefs of Program Directors meetings.

Member of the OD, NIH Evaluation Course Planning Committee.

Member of the OD, NIH Technical Merit Review Committee.

NCI representative at NIH Planning and Evaluation Officers meetings.

Chaired NCI Working Group on Cancer Centers.

Member of the OD, NIH Bibliometrics Committee.

Member of the Staff Training in Extramural Programs (STEP) Committee.

LEGISLATION AND CONGRESSIONAL LIAISON

Legislative analysis and congressional liaison activities include coordinating congressional relations for the Institute, monitoring and analyzing legislation of interest, informing and advising the senior management of the Institute, as well as the President's Cancer Panel, the National Cancer Advisory Board (NCAB), and the Boards of Scientific Counselors regarding legislative matters. Replies to all congressional correspondence to the Institute are coordinated, and model letters prepared when specific issues generate a large number of inquiries. Congressional telephone inquiries about NCI policies, activities, and programs are answered directly or referred as appropriate. Staff organize the Institute activities related to congressional hearings, informal briefings and visits to the Institute by members of the Congress or their staff.

Specific activities are described below:

Assisted in or coordinated the preparation of testimony for congressional hearings on pediatric AIDS and appropriations.

Legislative issues of interest monitored and analyzed included: The Health Omnibus Extension Act of 1988, Public Law 100-607; The Medicare Catastrophic Coverage Act of 1988, Public Law 100-360; and The Clinical Laboratory Improvement Amendments, Public Law 100-578.

Since the start of the 101st Congress issues to be monitored and analyzed include: medical effectiveness, appropriateness, and outcome research; pay for federal employees, recruitment and retention of senior NIH scientists; nutrition monitoring; mammography screening and approximately 14 animal welfare bills and 21 tobacco bills.

Visits were arranged for Senator Barbara Mikulski, Senator Tom Harkin, Senator Dale Bumpers, Senator Howell Heflin as well as staff from House and Senate Committees. A public briefing in Boston by NCI scientific staff on an NCI study of cancer mortality in the vicinity of nuclear power plants was arranged by the Legislative Liaison at the request of Senator Edward Kennedy, who also spoke at the meeting.

Office of Laboratory Animal Science
Office of the Director
National Cancer Institute

Program Activities Report
1 October 1988 - 30 September 1989

The Office of Laboratory Animal Science (OLAS) directs and coordinates laboratory animal care and use for Institute research programs; provides professional advice, guidance, and assistance to the Institute Director, senior staff, and other Institute staff on all aspects of animal care and use; assists in the development of Institute policy on the care and use of animals, and develops and implements mechanisms for monitoring compliance with Institute, NIH, DHHS, USDA, and other applicable policies, guidelines, and regulations to assure uniform, ethical, and humane animal care and use in all Institute research programs; maintains and manages centralized laboratory animal holding and research facilities for the Institute; and serves as the Institute's liaison with organizations and institutions concerned with the ethical and humane care and use of animals in research.

GOAL AND OBJECTIVES

The goal of OLAS is to establish and maintain animal care and use program activities which facilitate scientifically sound, animal-based research. Recognition of the Institute's collective responsibility to conduct animal research in a legally, morally, and ethically acceptable manner with a high degree of sensitivity to humane concerns and animal well-being is inherent in this goal. A constellation of objectives, essential to the accomplishment of this goal include: (1) develop program elements which meet or exceed the standards of the NIH Guide for the Care and Use of Laboratory Animals (NIH Guide) and assure the future accreditability of the NCI program consistent with the NIH Director's objective of accreditation by the American Association of Accreditation of Laboratory Animal Care (AAALAC), (2) implement a mechanism for institutional oversight of animal research through the activities of the NCI Animal Care and Use Committee and divisional animal care and use subcommittees which are constituted and function according to PHS Policy on the Humane Care and Use of Laboratory Animals, (3) centrally manage animal care programs and facilities to provide a controlled, healthy, and appropriate environment for the maintenance of research animals and conduct of animal experimentation, and (4) provide professional veterinary expertise, guidance, and consultation in laboratory animal medicine and science to institutional executives, administrators, and scientists relative to animal use in biomedical research.

ACTIVITIES

AAALAC Accreditation

Progress towards accreditation by the American Association for the Accreditation of Laboratory Animal Care (AAALAC) continued through FY 1989. NCI is participating in the NIH AAALAC Accreditation Plan, the goal of which is to accredit the intramural research program of NIH as a whole. NCI activities aimed at achieving an accreditable animal care and use program are as follows:

Construction of the Building 10A Central Animal Facility is more than 50% complete with beneficial occupancy expected in early 1990. Upon completion NCI will discontinue the use of all satellite animal rooms in Building 10 and consolidate those activities in 10A. NCI will occupy approximately 20% of the facilities' animal holding capacity to include a specialized area for the conduct of rodent research utilizing high-energy, short-lived radioisotopes to study radiolocalization and radiotherapy of tumors in conjunction with monoclonal antibodies.

A project initiated by OLAS to renovate the cagewash area on the B2 level of Building 10 has progressed to the 40% design stage and construction is expected to begin in January 1990. The renovation plans will upgrade the facility to meet accreditation standards as well as physically separating the area into two separate cagewash facilities. One cagewash facility will be dedicated solely to the support of the NCI B2B Central Animal Facility which will reduce significantly the risk of contamination of this pathogen-free operation by conventional animal holding areas of the Clinic Tower Animal Facility. The Clinic Tower Animal Facility, which contains four NCI animal rooms, will utilize the other renovated cagewash area.

The design for renovation of the Clinic Tower Animal Facility is complete and construction will begin in early FY 1990. This project is largely superficial to upgrade walls, floors, ceiling and doors to meet accreditation standards and to make minor program modifications.

Renovation of the Building 14D NCI Large Animal Surgical Facility has been completed and beneficial occupancy is expected by the beginning of FY 1990. A major construction project, the renovation has resulted in a state-of-the-art animal holding and animal surgical facility for specialized studies using immunocompromised animals. The facility design meets or exceeds all standards required for AAALAC accreditation.

Contract Oversight

OLAS participated in the development and implementation of a new NCI policy which specifies requirements for animal care and use oversight of intramural and extramural research and development contracts involving the use of vertebrate animals. In conjunction with an NIH policy on the same subject which is soon to be released, the policies establish mechanisms and responsibilities to insure that contracts and contractors are in compliance with PHS Animal Welfare Policy and other applicable laws, acts, and regulations. The NIH policy defines responsibilities for involvement of the institutional animal care and use committee and project officer during the pre-award and post-award phases for intramural research and development contracts. The NCI policy extends requirements to extramural contracts as well and stipulates involvement of the animal care and use committee at the Source Evaluation Group review.

Transition to Contract Animal Care Services

Phased replacement of government employee animal care staff by contract services through the prime contractor of the Frederick Cancer Research Facility progressed during FY 1989 with Program Resources, Inc., assuming animal care and facility management responsibility for the NCI Building 41 Central Animal Facility. Remaining government staff were utilized to fill vacancies in OLAS's Building 10 staff which supports all NCI animal care in the Clinical Center. Anticipated OLAS

losses during FY 1990 have resulted in planning for the contracting out of the NCI B2B Central Animal Facility in early 1990. Presently, both the Building 37 and the Building 41 Central Animal Facilities are fully operational under contract services.

New Projects

Progress on the development of a program of requirements and funding for the renovation of Building 14C has been moderate. Building 14C is a Division of Research Services, Veterinary Resources Branch animal holding facility which has been closed pending necessary renovations. DRS has agreed to dedicate 3600 square feet of animal holding space in the facility to transgenic and nude mouse needs of NCI. The program of requirements is complete but design and construction schedules have not been developed due to funding uncertainties.

Committee Activities

OLAS staff participated in numerous PHS and NIH committees where NCI representation was necessary. These committees included: the PHS AIDS Animal Model Committee, the NIH Animal Care and Use Committee, the Trans-NIH Coordinating Committee, the NIH Animal Program Advisory Committee of the AAALAC Oversight Committee, and the NIH Occupational Safety and Health Committee. In addition, OLAS staff provided veterinary membership on NCI divisional animal research subcommittees as well as chairing the NCI Animal Care and Use Committee. The OLAS director is also a member of the FCRF Animal Care and Use Committee. Wide committee participation assisted OLAS in the oversight of all NCI animal research-related activities.

OFFICE OF INTERNATIONAL AFFAIRS
OFFICE OF THE DIRECTOR
NATIONAL CANCER INSTITUTE

Program Activities Report
October 1, 1988 - September 30, 1989

As mandated by the National Cancer Act, the National Cancer Institute (NCI) maintains an active international program aimed at understanding, treating, controlling, and preventing cancer, both in the United States and abroad. NCI's international program, coordinated by the Office of International Affairs (OIA), is in concert with that of the National Institutes of Health (NIH), the other NIH institutes, and the Fogarty International Center (FIC). The international program involves cooperation in cancer-related research and training under a) the umbrella of bilateral (and multilateral) agreements; b) the direct award of grants and contracts by any of the four NCI research divisions (Division of Cancer Biology and Diagnosis, Division of Cancer Etiology, Division of Cancer Treatment, and the Division of Cancer Prevention and Control) or other NCI offices to scientists at foreign institutions; and c) through information dissemination worldwide. Liaison is maintained with international organizations and agencies involved in cancer research, e.g. European Organization for Research and Treatment of Cancer (EORTC), International Agency for Research on Cancer (IARC), International Union Against Cancer (UICC), Organization of European Cancer Institutes (OECI), Pan American Health Organization (PAHO), World Health Organization (WHO), etc.

The ultimate goal of the above-mentioned collaborative cancer research efforts between the NCI and its international counterparts is a tangible improvement in the quality and quantity of health services to millions of people all over the world.

Cancer research, and for that matter biomedical research, is conducted all over the world. It is supported by governments, industry, private non-profit institutions, and private individuals. In general, it results in publications in the scientific literature, and when it does it is freely available to anyone interested. Most of the cooperation in cancer research is between individual scientists of the free world. Most of it is informal. No reliable records exist to quantitatively judge the contribution made towards the advance of knowledge by the free flow of information between investigators. Everyone agrees, however, that it is substantial. Therefore, the NCI--which at any one time supports some 1,800 research scientists and staff intramurally and some 5,000 grants, contracts, and training awards extramurally--dedicates some of its resources to catalyze international cooperation between U.S. and foreign scientists and their institutions. While cooperation between scientists from English-speaking countries requires little stimulation, cooperation between U.S. and foreign scientists from other nations benefits from such activity.

Formal cooperative research programs fall under the aegis of either government-to-government (science and technology or health agreements) or institute-to-institute agreements. NCI participates (see Table I) in many of the 73 bilateral agreements NIH has with 39 nations: directly with institutions in 10 countries; and, through NIH/FIC, with institutions in six other countries. Direct NCI bilateral participation involves institutions in Egypt, the Federal Republic of

Germany, France, Hungary, Italy, Japan, Korea, the People's Republic of China, Poland, and the Soviet Union. Participation through FIC/NIH involves institutions in India, Israel, Mexico, Spain, Thailand, and Taiwan. NCI participation through international organizations involves institutions in many other countries.

During 1989 465 foreign scientists will be at NCI participating in the NIH Visiting Program: 341 have appointments as Visiting Fellows, Visiting Associates, or Visiting Scientists; 11 have appointments as Visiting Experts; 2 are Breast Cancer Study Fellows; and 111 are Guest Workers. The latter usually receive financial support from their home institution.

No attempt will be made here to list all of the many exciting collaborative efforts of NCI-supported and foreign scientists. One example, however, will be given. In a joint effort, cosponsored by OIA, scientists have cloned and partially characterized a novel human nasopharyngeal carcinoma (NPC) transforming gene. Full characterization of the gene and of its expression may contribute to the prevention of the disease. NPC affects a very large number of people, particularly those of some less developed nations.

All projects of the OIA will be evaluated over the next few years to obtain, at the same costs, increased benefits for both U.S. and foreign science.

BILATERAL AGREEMENTS

Egypt

The U.S. Agency for International Development (USAID) has entered into a Participating Science Agreement (PASA) with Egypt's Office of International Health (OIH). The U.S. Public Health Service (PHS) provides supporting funds for the US-Egypt Joint Working Group on Health Cooperation. The agreement supports clinical and epidemiology studies on non-Hodgkin's lymphoma and leukemia in Egypt and a project using epirubicin before and after radical cystectomy in the treatment of carcinoma of the bilharzial bladder. Pharmitalia provides at no cost the necessary epirubicin for the project. Dr. Ian Magrath, DCT, acts as the NCI Scientific Coordinator for Egypt. M. Nabil El-Bolkainy, M.D., Ph.D., Dean of the National Cancer Institute, Cairo University, is the Egyptian coordinator for the bilateral agreement. To continue the productive collaboration on non-Hodgkin's lymphomas between the two countries in the future an NCI-Cairo scientist is scheduled to receive advanced training in cytogenetics at NCI-USA during the next fiscal year.

Federal Republic of Germany

Formal cooperation is under the auspices of an agreement first signed in 1976 with the Ministry of Science and Technology of the Federal Republic of Germany. Scientific coordinators for the German side are Prof. Harald zur Hausen, Director of the German Cancer Research Center ("Deutsches Krebsforschungszentrum" [DKFZ]) in Heidelberg, and Prof. Manfred F. Rajewsky of the "Westdeutsches Tumorzentrum" in Essen. Four German scientists visited American laboratories under the agreement and three American scientists visited German laboratories. German scientists are exploring with NCI the desirability of establishing parallel clinical trials to those in the U.S. in Germany, perhaps by becoming more active in some of the EORTC working groups. Also under discussion is the establishment

of a German tumor bank. A joint workshop (see Table II) was organized by Drs. M. Schumacher, J. Wahrendorf, and N. Breslow. Informal scientist-to-scientist cooperation between cancer researchers in the U.S. and the Federal Republic of Germany involve a substantially larger number of people than does the formal mechanism.

There are currently 19 West German scientists at the NCI under the NIH Visiting Program.

France

Formal cooperation is through the French "Institut National de la Sante et de la Recherche Medicale" (INSERM) under an agreement which was last renewed in 1984. The Scientific Coordinator for the French side is Dr. Pierre Tambourin, Hopital Cochin, Paris. Six French and four American scientists were supported in each other's country under the agreement. A joint workshop (see Table II) was organized by Drs. H. Tapiero, J. Robert, and T. Lampidis.

Informal cooperation between NCI intramural and extramural scientists--particularly between those at the 62 NCI-designated cancer centers and their counterparts at the 20 French centers--involves many more persons than the formal program. In some cases, support for such collaboration has been provided by the French "Association pour la Recherche sur le Cancer" (ARC). In a ceremony attended by the chairman of the President's Cancer Panel, Dr. Armand Hammer, and the OIA director, ARC President, Jacques Crozemarie, awarded the 1988 Prix Griffuel to DCT's Dr. Steven Rosenberg for his work in adoptive immunotherapy. ARC is making available in French, over phone minitel terminals, the NCI-developed Physicians Data Query (PDQ) database.

Twenty-nine French scientists presently work at the NCI under the NIH Visiting Program.

Hungary

Seven Hungarian scientists visited American laboratories during the fiscal year under the bilateral agreement and two American scientists visited Hungarian laboratories for short periods of time. Prof. Sandor J. Eckhardt, Director of the National Institute of Oncology in Budapest and the Hungarian coordinator for the bilateral agreement, visited the NCI in June. A joint US-Hungarian workshop "New Approaches in Cancer Research and Treatment" is planned for October 1989.

There are currently 11 Hungarian scientists at the NCI under the NIH Visiting Program.

Italy

Prof. Umberto Veronesi, director of the National Cancer Institute in Milan, and Prof. Leonardo Santi, director of the National Cancer Research Institute in Genoa, are the Italian coordinators for the bilateral agreement. Dr. Lance Liotta, DCBD, is the Scientific Coordinator for the American side. Three joint workshops (see Table II) were held during the fiscal year. There were 15 Italian and three American scientific exchanges this year.

There are currently 69 Italian scientists at the NCI under the NIH Visiting Program.

Japan

NCI has agreements with the Japan Society for the Promotion of Science (JSPS; Fuminori Sakai, M.D., Director General) and with the Japanese Foundation for Cancer Research (JFCR; Haruo Sugano, M.D., Director).

The agreement with the JSPS was extended for five years in 1988 and the agreement with the JFCR began that same year. The agreements cover four program areas: Cancer Etiology (coordinated by Drs. Richard Adamson [Director, DCE, NCI] and Takashi Sugimura [President, National Cancer Center, Tokyo]; Cancer Biology and Diagnosis (coordinated by Drs. Richard Hodes [DCBD] and Yuichi Yamamura [Osaka University]; Cancer Treatment (coordinated by Drs. Michael Friedman [DCT] and Makoto Ogawa [Cancer Chemotherapy Center, JFCR]; and an Interdisciplinary Area (coordinated by Drs. Robert Miller [DCE] and Haruo Sugano [Director, Cancer Institute, JFCR]).

Twelve workshops were held during FY 1989 under the auspices of the bilateral agreement with the JSPS (see Table II). Thirteen Japanese scientists visited American laboratories with support from the JSPS. Two Japanese scientists came for longer periods of time to NCI-supported laboratories with funding provided under the NCI-JFCR agreement. It is expected that next year the NCI-JFCR program will see a substantially higher number of Japanese exchange scientists in the U.S.

There are currently 90 Japanese scientists at the NCI under the NIH Visiting Program.

Korea

NCI has a bilateral agreement with the Korean Academy of Medical Sciences (KAMS). KAMS President, Dr. Moon Ho Lee, acts as coordinator for the Korean side of the agreement. He is assisted by Dr. Kwang-ho Meng, Secretary-General of the Korean Cancer Research Group. The first two steering committee meetings were held during FY 1989, one in October 1988 in Hawaii, and the second in June 1989 in Seoul, Korea. Four Korean epidemiologists including Dr. Meng, attended the Surveillance, Epidemiology, and End Results (SEER) investigators meeting in Chicago, and the American Association of Central Cancer Registries (AACCR) meeting. Afterwards, they spent some time at the NCI learning more about the institution and its work. The second Joint Steering Committee meeting in Seoul was followed by a workshop on "Hospital-Based Tumor Registries."

There are currently eight Korean scientists at the NCI under the NIH Visiting Program.

Mexico

Dr. Pablo Rudomin, an NIH grantee at the Center for Research and Advanced Study (CINVESTAV) in Mexico City, and Ignacio Madrazo, Associate Director for Research at the National Medical Center of the Mexican Social Security System (IMMS) act as scientific coordinators for the two agreements with Mexico under which NCI operates. Dr. Guillermo Soberon, former Mexican Minister of Health and presently president of the Mexican Health Foundation, is an important contact for developing

future collaborations with our Mexican colleagues. Another important contact is Dr. Manuel Ortega, Director-General, National Commission on Science and Technology (CONACYT). During FY 1989, NCI has been able to fund only one Mexican Exchange Scientist under the bilateral agreement. NCI co-sponsored a workshop on "Bronchogenic Carcinomas" in Mexico (see Table II) and one on the Latin American Cancer Research Information Project (see PAHO). On these two occasions Television Mexiquense interviewed the OIA director on a live broadcast discussing how to prevent cancer.

People's Republic of China

Some collaborative epidemiological and intervention studies are being carried out in China under grants and contracts awarded by the NCI research divisions. Dr. Shi-Xin Lu, Director of the Cancer Hospital and Institute of the Chinese Academy of Medical Sciences (CAMS), in Beijing, has replaced Dr. Li Bing as clinical coordinator of the bilateral agreements. Activities under the bilateral agreement were limited this year to two Chinese scientists studying DCPC's antismoking programs in Bethesda and to two American scientists visiting Chinese laboratories. A workshop in Beijing on the "Relevance of N-Nitroso Compounds, Mycotoxins, and Tobacco to Human Cancer," organized by IARC and co-sponsored bilaterally, had to be rescheduled to Lyon, France, due to the recent political turmoil in the People's Republic of China.

There are currently 39 Chinese scientists at the NCI under the NIH Visiting Program.

Poland

NCI cooperates with the Maria Sklodowska-Curie (MSC) Memorial Institute of Oncology based in Warsaw and with subsidiaries in Cracow and Gliwice. Prof. Jan Steffen, Director of the Institute, is the Polish coordinator of the program. Although some research programs were identified for cooperation and for funding from a Special Foreign Currency Program (MSC Joint Fund II) administered by a joint commission, funding has not yet been obtained. Five Polish scientists came to U.S. laboratories during FY 1989 under the agreement. Two OIA officials met with their Polish counterparts at the three Institutes of the Oncology Center in Warsaw, Cracow, and Gliwice, and at the Ludwig Hirsztfeld Institute of Immunology and Experimental Therapy, Polish Academy of Sciences, in Wroclaw, to discuss possibilities for closer future collaboration.

There are currently five Polish scientists at the NCI under the NIH Visiting Program.

Spain

Discussions about closer collaboration were recently held in Madrid, Barcelona, and Valencia. Since the S&T agreement with Spain has expired and has not yet been renewed, Drs. Stuart Aaronson--chief of the Laboratory of Cellular and Molecular Biology, DCE--and Domingo Espinos--Professor of Medical Pathology at the University of Madrid and President of the Technical Committee of the Spanish Association Against Cancer--act as informal scientific advisors to the NCI program. Informal cooperation continues on signal transduction pathways activated by growth factors and their subversion in human cancer, on the evaluation of high dose chemotherapy regimens followed by autologous bone marrow transplantation as

therapy for patients with acute lymphoblastic leukemia or malignant lymphomas, on the elucidation of the Cell Biology of Ewing's Sarcoma and related primary tumors, etc.

There are presently seven Spanish scientists at the NCI under the NIH Visiting Program.

USSR

This program has grown explosively during FY 1989. Twenty-eight Soviet scientists will have visited U.S. laboratories under the agreement by the end of the fiscal year. Their number and their length of stay has increased substantially, possibly reflecting "glasnost" and "perestroika". Academician Nikolai N. Trapeznikov, Director of the All-Union Cancer Research Center in Moscow, is the Soviet coordinator for the US-USSR bilateral agreement in cancer research. Both he and Academician Nikolai P. Napalkov, Director of the N.N. Petrov Institute of Oncology in Leningrad, arranged for the visit of Drs. Emil Frei (Dana Farber Cancer Center), Enrico Mihich and Jerome Yates (Roswell Park Memorial Institute), Richard Steckel (Jonsson Comprehensive Cancer Center), and of the OIA director to the USSR to discuss and implement parallel clinical trials to those conducted in the U.S. Two trials, using 5FU or Ftorafur and leucovorin (provided free of charge by Lederle) in the treatment of late colorectal carcinomas and one using GCSF (provided free of charge by AMGEN) as adjuvant in breast cancer treatment, are to be implemented in Moscow and Leningrad. Collaborative research in the basic sciences is also expanding to other cities such as Kiev and Pushchino. Twelve American scientists visited Soviet laboratories under the bilateral agreement.

MULTILATERAL ORGANIZATIONS

EORTC

DCT's collaborative program with the EORTC and the Cancer Research Campaign in the U.K. continues to be highly successful in providing a regular flow of new compounds into the anticancer screen and an increasing number of new drugs for Phase I and II clinical evaluations. Through an interagency agreement with the Department of State, the NCI operates a liaison office in Brussels, Belgium. Located at the Institut Jules Bordet (IJB), a Comprehensive Cancer Center, this office is headed by Dr. Omar Yoder. The office works closely with Prof. Henri J. Tagnon--co-founder of EORTC, former director of IJB, and editor of the European Journal of Cancer--and with current officers of both EORTC (Prof. Louis Denis, Antwerpen, President) and IJB (Prof. J. Fruhling, Director). EORTC joins some 2,000 European cancer specialists, in 250 institutions, into a single working team. The EORTC Data Center provides the statistical and data processing services required for state-of-the-art clinical trials.

The primary screening of compounds for antitumor activity is presently being transferred to the Frederick Cancer Research Facility (FCRF) in Maryland. The four EORTC branches--Cancer Treatment, Cancer Education, Cancer Research, and Cancer Epidemiology and Prevention--are headed respectively by Profs. Maurice Tubiana (Institute Gustav Roussy), Jerzy Einhorn (Karolinska Institute), Manfred Rajewsky (West German Tumor Center), and Lorenzo Tomatis (IARC). EORTC also provides NCI with early access to results from cancer research directly supported by the European Economic Community and to the work of the Commission of European Communities in this the "European Information on Cancer Year 1989."

The NCI-EORTC scientist exchange program provided 26 fellowships during the current fiscal year.

IARC

IARC, a WHO-affiliated organization, receives its regular budget as allocation by 14 member states: Australia, Belgium, Canada, the FRG, Finland, France, Italy, Japan, The Netherlands, Norway, Sweden, the U.K., the U.S.A., and the USSR. In addition, it is one of the more successful non-U.S. institutions competing for NCI grants and contracts.

Dr. Lorenzo Tomatis, IARC director since 1981, instituted in 1985 a regular system for reviewing the Agency's activities. All projects are peer-reviewed at least every five years. The OIA represented the NCI at the 30th Session of the IARC Governing Council meeting.

Among the projects supported by NCI is the publication of a monograph series evaluating the carcinogenic risk of chemicals to humans. These "IARC Monographs" are now used widely as authoritative sources of information by governments and regulatory bodies in different countries.

OIA contributed during FY 1989 towards the publication of the "Directory for Ongoing Research in Cancer Epidemiology," a cooperative project with IARC and the DKFZ.

OECI

The OECI was founded in 1978 to foster cooperation between cancer centers of EEC and COMECON countries. The OIA represented NCI at OECI's General Assembly Meeting held in Brussels, Belgium, May 6-9, 1989. The OECI provides NCI opportunities for interaction with the leadership of cancer centers in European countries, such as Czechoslovakia and the German Democratic Republic, with which NCI has no formal ties. Dr. Sandor Eckhardt of Hungary is OECI's President. Sir Walter Bodmer, Director of Research, Imperial Cancer Research Fund (ICRF), U.K., is President-elect.

PAHO

PAHO is the recipient of an OIA contract which contributes to the support of the Latin American Cancer Research Information Project (LACRIP). During FY 1989 there are 3,300 subscribers to the selective research dissemination service. The service is provided by PAHO's Regional Biomedical Library (BIREME) in Sao Paulo, Brazil, and seven additional national subcenters. The subscribers requested and received copies of 15,800 original articles on cancer research, including prevention.

The first workshop for information dissemination specialists involved in LACRIP was held June 8-9, 1989, in Mexico City.

UICC

The UICC is based in Geneva, Switzerland. It is a worldwide organization with over 250 members in 84 countries. Prof. C.G. Schmidt of the FRG, is the current president. Prof. Sandor Eckhardt is president-elect. As such, they will chair

the 15th International Cancer Congress planned for August 15-22, 1990, in Hamburg, FRG.

During FY 1989 NCI contributed to the support of the UICC Committee for International Collaborative Activities (CICA), the UICC Detection and Diagnosis Program, UICC's Fellowship and Personnel Exchange Program, and the UICC's Tumor Biology Program.

CICA held its annual meeting March 19-20, 1989, at the Karolinska Institute in Stockholm, Sweden. Prof. Frans Cleton, University of Leiden, The Netherlands, is chairman of CICA and Dr. Praful Desai, director of the Tata Memorial Cancer Center in Bombay, India, is chairman-elect. A project involving non-governmental organizations in the development of National Cancer Plans in a series of countries lacking them, was to be initiated. Drs. D.M. Eddy, Duke University, Durham, NC, and Lester Breslow, UCLA, volunteered their expertise.

The UICC's Detection and Diagnosis Program, under the chairmanship of Prof. Umberto Versonesi, received NCI funding for a project on the TNM classification of malignant tumors. The Fellowship and Personnel Exchange Program, under the chairmanship of Sir Walter Bodmer, ICRF, received partial funding for International Cancer Research Technology Transfer (ICRETT) fellowships. Prof. Jan Ponten, University of Uppsala, Sweden, current chairman of the Nordic Cancer Union, and his committee selected 63 candidates from 110 applicants for short term ICRETT awards during the contract year 1988. Prof. Max M. Burger, Friedrich Miescher Institute, Basel, Switzerland, received funding for a 1989 international tumor biology course in Hyderabad, India.

Table I
Active Bilateral Agreements

<u>Country</u>	<u>Science & Technology</u>	<u>Health</u>	<u>NIH</u>
Egypt	1975	1975	
FRG	--	1976	NCI-MRT 1981
France	--	1982	NIH-INSERM 1984
Hungary	1977	--	NCI-NIO 1981
India	1974	--	
Israel	1972	--	
Italy	1967	1977	
Japan	1980	1965	NCI-JSPS 1973 NCI-JFCR 1988
Korea	1976	--	NCI-KAMS 1988
Mexico	1972	--	NIH-CINVESTAV 1985
PRC	1979	1979	NIH-CAMS 1983
Poland	1972	1973	NCI-NIO 1976
Spain	1976	--	
Taiwan	1980	--	NIH-NSC 1983
Thailand	1984	--	NIH-CRI 1989
USSR	1972	1972	

Table II
OIA-NCI Co-sponsored Workshops, FY 1989

<u>Bilateral Program</u>	<u>Dates</u>	<u>Location</u>	<u>Title</u>
US-FRG	Feb. 19-24, 1989	Oberwolfach, FRG	Statistical Methods in Epidemiology
US-France	Mar. 13-15, 1989	Villejuif, France	Clinical and Laboratory Responses to Anti-Cancer Drugs
US-Italy	Oct. 11-12, 1988	Portofino, Italy	Cancer Biotechnology
	June 28-29, 1989	Venice, Italy	Cancer Diagnosis, Treatment, and Molecular Mechanisms
	Sept. 25-27, 1989	Genoa, Italy	Biology and Therapy of Breast Cancer
US-Japan (B&D)	Jan. 16-19, 1989	Kahuku, HI	Cytochrome P-450 and Carcinogenesis
	Feb. 13-15, 1989	Makaha, HI	Influence of Biologic Response Modifiers on the Host Response to Cancer
	Jan.30-Feb.1, 1989	Sapporo, Japan	Oncogenes, Growth Factors and Receptors
US-Japan (E)	Jan. 26-28, 1989	Honolulu, HI	Molecular Mechanism of Viral Carcinogenesis
	Feb. 16-17, 1989	Honolulu, HI	Multiple Primary Cancers
	Feb. 23-24, 1989	Honolulu, HI	Fundamental and Clinical Aspects of Pancreatic Cancer
	Mar. 23-25, 1989	Honolulu, HI	Marine Natural Products and Cancer
US-Japan (T)	Nov. 11-12, 1988	Tokyo, Japan	Progress in Treatment of Hematologic Tumors
	Feb. 21-22, 1989	Honolulu, HI	Searching for New Anticancer Drugs

<u>Bilateral Program</u>	<u>Dates</u>	<u>Location</u>	<u>Title</u>
	Mar. 30-31, 1989	Los Angeles, CA	Neo-adjuvant and Adjuvant Chemotherapy in Breast and Gastrointestinal Tumors
US-Japan (I)	Nov. 11-13, 1988	Hiroshima, Japan	Biostatistics in the Study of Human Cancer
	Mar. 7-10, 1989	Chicago, IL	Hospital-Based Cancer Registry and Epidemiology
US-Korea	June 28-29, 1989	Seoul, Korea	Cancer Registration in Korea
US-Mexico	Mar. 9, 1989	Mexico City	Bronchogenic Carcinoma
US-USSR	Feb. 13-17, 1989	Moscow & Leningrad, USSR	US-USSR Parallel Clinical Trials

Table III

FY 1988 NCI Foreign Grants and Contracts

<u>Country</u>	<u>Grants</u>	<u>Dollars</u>	<u>Contracts</u>	<u>Dollars</u>	<u>Total \$</u>
Australia	5	380,380	--	--	380,380
Belgium	--	--	1	300,000	300,000
Canada	29	2,042,175	3	780,837	2,823,012
Denmark	--	--	1	67,192	67,192
Finland	1	42,131	1	3,170,674	3,212,805
Ghana	--	--	1	45,000	45,000
India	1	5,000	--	--	5,000
Israel	7	477,523	2	119,733	597,256
Italy	1	318,465	--	--	318,465
Jamaica	1	317,537	--	--	317,537
Japan	--	--	1	188,500	188,500
PRC	1	19,200	3	1,065,840	1,085,040
Sweden	7	599,531	2	129,782	729,313
Tanzania	--	--	1	80,000	80,000
United Kingdom	4	372,705	--	--	372,705
Yugoslavia	--	--	1	71,400	71,400

Multilateral Organizations

EORTC	1	273,473	1	150,000	423,743
IARC	7	1,022,049	1	85,000	1,107,049
PAHO	--	--	2	424,113	424,113
UICC	1	43,489	1	125,000	168,489
		<hr/>		<hr/>	<hr/>
TOTAL		\$5,913,928		\$6,803,071	\$12,716,999

The title, name of principal investigator, sponsoring organization, amount, and number of the grants or contracts awarded to foreign institutions can be found on pages 502-517 and 63-69 of NIH publications 89-1042 and 89-1044, respectively. These data allow for the retrieval of information on research in progress using, for instance, the "GENIU2S" database at NCI.

Equal Employment Opportunity Office (EEO)
Office of the Director
National Cancer Institute

Summary Report

October 1, 1988 through September 30, 1989

The EEO Officer is working very closely with the Equal Employment Opportunity Advisory Group (EEOAG) sub-committee overseeing the implementation of the minority "Adopt-A-School" project, the selected high school is McKinley Tech High School in the District of Columbia.

The EEO staff along with the Personnel staff is actively involved in the establishment of a recruitment network for Native Americans and Native Hawaiians. They have assisted the Special Populations Branch in this area. The staff was also in attendance in the NIH Native American and Hispanic initiative in Phoenix Arizona last spring, 1989. This was a major recruitment effort.

The NCI Periodical Recycling Program is a continuing success. The average number of cartons distributed to minority Institutions annually is 500.

The first Annual Affirmative Employment Program (AEP) Accomplishment Report was prepared and distributed in February 1989. The AEP plan covers the fiscal years 1988-1992. This plan encompasses the Federal Equal Opportunity Recruitment Program (FEORP) and the NCI Affirmative Action Program (AAP).

The EEO Office is continuing to implement the FEORP program for Disabled Individuals and Veterans.

The EEO staff attended several seminars and conferences throughout the year and is continuing to assure that special emphasis is put on minority, non-minority female and handicap recruiting.

OFFICE OF THE ASSISTANT DIRECTOR

OFFICE OF THE DIRECTOR

PROGRAM ACTIVITIES REPORT

October 1, 1988 through September 30, 1989

One major responsibility of the Assistant Director (AD) is serving as the Executive Secretary for the President's Cancer Panel. The Panel consists of three Presidential appointees, Dr. Armand Hammer, Chairman, Dr. William P. Longmire, Jr., and Dr. John A. Montgomery. Each of the members has been reappointed by the White House for additional 3-year terms. The Panel has affected the initiation of new programs and the implementation of existing priorities, and has served consistently as a forum for the scientific community and for the public by conducting meetings throughout the country for the past 8 years.

The Panel held meetings this year at Howard University in Washington, D.C., at Meharry Medical College in Nashville, TN, and in Bethesda, MD.

The Panel meetings have concentrated on cancer diagnosis, treatment and prevention in minority populations. They focused on innovative approaches to local problems in the medically underserved regions of the country, and highlighted specific expertise unique to the visited area.

At Howard University Dr. Kenneth Olden, Director of the Howard Cancer Center, provided the Panel a thorough analysis of the specific black cancer research issues with which he and his staff are concerned. The high incidence of cancer in black populations and the potentials for modification of those data were discussed by Dr. Reed Tuckson, the Commissioner of Public Health for the District of Columbia, and by Dr. Claudia Baquet, Chief of the Special Populations Studies Branch, NCI.

At Meharry Medical College Professor Kofi Semanya related the epidemiological characteristics of the black populations in Tennessee and other regions of the nation. Dr. David Satcher, President of Meharry Medical College, and Dr. Alfred M. Haynes of the Charles R. Drew University of Medicine and Science located in Los Angeles, California, presented to the Panel the progress and the current status of the programs undertaken by the Drew-Meharry Morehouse Consortium Cancer Center.

This Consortium Cancer Center of three predominantly black medical schools located in three states was created following a meeting of the President's Cancer Panel held in 1984 dealing with the establishment of consortium centers. The results reported indicated considerable numbers of people are now receiving the benefits of clinical trials, outreach programs, cancer control demonstration projects, etc., where previously there had been none.

This year the AD established and convened a new committee, the National Committee to Review Current Procedures for Approval of New Drugs for Cancer and AIDS. The AD is the Executive Secretary for this nine-member committee, which is holding monthly meetings to respond to a Presidential request for a systematic study of drug regulation as it affects progress in developing and making available therapies for cancer and AIDS, and make recommendations for improvements.

The President's Cancer Panel nominated the members of the new committee, and asked Dr. Louis Lasagna, Dean at Tufts University, to assume the chair. Since the first meeting on January 4, 1989 the committee has made considerable progress, and is expected to provide a final report by December 1989. This report will be submitted to the President by the Chairman of the President's Cancer Panel, on behalf of the Director, NCI, and Dr. Lasagna's committee.

In 1982, the President's Cancer Panel initiated a study of the Peer Review System, and the NIH grant mechanisms then available to established research investigators. The initiative undertaken by the Panel to establish a new grant mechanism for investigators with proven, productive careers, culminated in the establishment of the NCI's Outstanding Investigator Grant (OIG). There are now 68 individuals who have been awarded OIGs since 1985, the first year of the grant mechanism. Awards are for 7 years, and are made based on mail-ballot peer reviews followed by National Cancer Advisory Board approval.

The AD is responsible for the Office of the Medical Applications of Cancer Research (OMACR), coordinating with the NIH Office of Medical Applications of Research (OMAR). In response to requests from the Health Care Financing Administration and the Office of Health Technology Assessment, HHS, reports are prepared dealing with various medical technologies of concern to the nation. The Cancer Institute has evaluated mammography screening, autologous bone marrow transplantation and magnetic resonance imaging to assist the National Center for Health Services Research collect the national experiences and generate new policy directives.

As NCI representatives to OMAR, the AD is a member of the Coordinating Committee on Assessment and Transfer of Technology (CCATT) at the NIH. OMAR also supports the consensus development programs at the NIH. This past year the NCI co-sponsored the Consensus Development Conference concerned with oral complications of cancer therapies, and the conference dealing with sunlight, UV radiation and the skin.

The objective of each consensus development conference is to evaluate the issues concerning the current technology, and prepare a consensus statement useful as a guide for health care providers and the general public. The conferences make scientific information regarding prevention, detection, diagnosis, and treatment of diseases available to practicing physicians. To achieve those objectives, the soundness and feasibility of new medical interventions are evaluated by a multi-disciplinary group of experts. Additional conferences currently planned deal with adjuvant chemotherapy for node-negative breast cancer

patients, the therapeutic use of gamma globulin, and adjuvant chemotherapy for large bowel cancer.

A major responsibility of the AD is serving as the reviewing and recommending official regarding requests submitted by the professional staff of the Institute to engage in outside activities. Over 1,000 requests annually are logged in the office, each receiving individual attention and analysis prior to evaluation to assure the absence of potential conflicts of interest. Ethical, practical and legal issues are evaluated, as well as adherence to NIH policies and regulations, and the DHHS Standards of Conduct.

Additional functions of the AD include signatory responsibilities for NCI contracts and Interagency Agreements. The AD is also the Designated Ethics Official for the NCI, and in this capacity, as Deputy Ethics Counselor, reviews the employment and family financial interests of NCI administrators and managers, and reviews as well the Executive Personnel Financial Disclosure Reports for the Institute.

This review of employee holdings and outside sources of income affirms the absence of apparent and potential conflicts of interests, as may be detected by reviews of employee reports. The DHHS Standards of Conduct, and other pertinent regulations, apply to staff, to members of NCI advisory groups, and to other non-federal affiliates. Adherence to the guidelines is reviewed annually for each of approximately 400 individuals on the staff of the National Cancer Institute. This year was also the first year new ethics regulations were enacted by Congress and the Office of Government Ethics, which necessitated a number of training sessions for NCI staff. These were organized and administered by the AD with collaboration from the Office of General Counsel, DHHS.

INFORMATION PROJECTS BRANCH

The Information Projects Branch (IPB) is responsible for the design, development, and evaluation of outreach education programs for the public and cancer patients. In addition, the Branch provides marketing, communications, evaluation, and health education support for other NCI units.

FY 89 was the first full year during which the Branch operated with two new sections.

1. The Health Promotion Section develops public education programs dealing with cancer prevention and early detection.

2. The Patient Education Section develops education programs and resources for cancer patients, their families, and caregivers.

HEALTH PROMOTION

The Health Promotion Section of IPB is responsible for planning, implementing, and evaluating health communication programs targeted to the public. Programs seek to influence members of the public to adopt and maintain behaviors that can reduce the risks of cancer and promote overall health. Currently IPB's health promotion efforts are carried out through the Cancer Prevention Awareness Program (CPAP).

The CPAP supports NCI's overall efforts to reduce the U.S. cancer death rate by as much as 50 percent by the year 2000. Emphasizing the "good news" that 80 percent of all cancers are related to environmental or lifestyle factors, the program seeks to improve public knowledge and beliefs that cancer is largely preventable and to impart practical information about how individuals can reduce their own cancer risks. Specifically, messages emphasize the following:

1. Avoiding tobacco in all forms.
2. Including foods high in fiber daily (fruits, vegetables, and whole-grain breads and cereals) and choosing foods low in fat.
3. Getting regular medical checkups to detect cancer as early as possible.

Communication Strategies

The CPAP reaches the public through the mass media (radio, television, and print) and through intermediary organizations that communicate with and influence the public. Health professionals play a pivotal role in the program, both as key target audiences and as intermediaries for influencing their patients.

Scope of Program

IPB has developed a variety of materials that expand on the program's theme and help intermediaries communicate messages on the two major modifiable risk factors for cancer--tobacco and nutrition--and on the importance of early

cancer detection, particularly mammography for women over age 40. Intensified program efforts also focus on cancer prevention among blacks, a population with greater-than-average risk of developing and dying from cancer. In FY 89, each program area involved phases of planning, implementation, and evaluation.

General Prevention

The CPAP continued in FY 88 to recruit intermediary groups and mass media in its nationwide effort to inform health professionals and the public about cancer risk reduction.

1. Intermediary activities included ongoing distribution of cancer prevention messages, materials, and project ideas through Partners in Prevention (PIP), a network of more than 2,000 individuals and organizations representing regional, state, and local cancer prevention activities. A user's assessment of UPDATE, an information bulletin mailed to PIP members, found that each subscriber on average shares it with 10 other people, located most often in health departments, health care institutions, colleges and universities, and voluntary health agencies.
2. IPB awarded three master agreement projects to promote and evaluate its Partners in Prevention community speaker's kit on cancer prevention and its newly developed presentation materials for black audiences.
3. IPB continued promotion and monitoring of its mass media public service announcements, "Good News." Based on its analysis of campaign feedback data, IPB estimated that the spots aired more than 20,000 times on TV and more than 200,000 times on radio, for a total of more than \$6 million in donated station time. TV monitoring reports showed that the announcements reached 40 to 50 percent of all TV households each of the 6 months after initial release.
4. IPB's followup public service campaign, focused on nutrition, was developed and distributed to about 7,000 radio stations across the United States. The radio spots feature the upbeat musical theme, "Eat Your Way to Good Health." The messages were developed especially for black audiences but also have wide appeal to the general public.
5. Through an interagency agreement with the Office on Disease Prevention and Health Promotion, IPB collaborated with the Washington Business Group on Health to conduct a survey of selected corporations to determine barriers and opportunities for cancer prevention education in the worksite.
6. IPB collaborated with the American Association of Retired Persons in conducting a needs assessment of AARP volunteers to determine their interests and information needs related to specific cancer prevention, early detection, and treatment issues. The assessment found a high level of interest among volunteers regarding cancer education, particularly on the topics of mammography and nutrition. Based on these results, IPB is working with AARP to develop a

community resource kit for use by AARP health advocacy volunteers.

7. IPB staff served as technical advisors to the American Cancer Society in the planning and implementation of the Society's seven regional hearings on Cancer and the Poor conducted during FY 89. IPB will collaborate with the Society in acting on recommendations made during the hearing regarding cancer prevention, control, and treatment in underserved populations.
8. IPB staff provided consultation and technical assistance to a number of organizations including the American Public Health Association; American Association of Retired Persons; Washington Business Group on Health; Kaiser Family Foundation; American Dietetic Association; Society for Nutrition Education; USDA Cooperative Extension; National Association of Extension Home Economists; American Nursing Association; American Medical Association; National Medical Association; the LINKS, Inc.; District of Columbia Department of Health, Cancer Control Division; Wellness Councils of America; and University of Maryland and University of North Carolina, Graduate Departments of Health Education.

Tobacco Education

Information and education activities related to tobacco use in FY 89 continued to be focused on health professionals to enhance their involvement and skills in counseling patients about smoking cessation and cancer prevention.

1. IPB and the American Cancer Society sponsored a successful news conference in Washington, D.C., to launch their joint "Quit for Good" smoking cessation program for physicians and dentists. An IPB video news release about the new program that featured Surgeon General C. Everett Koop, the keynote speaker at the press event, was viewed by an estimated 10 million Americans.
2. In collaboration with the American Academy of Otolaryngology - Head and Neck Surgery, IPB developed a school lesson plan to supplement its public information brochure on smokeless tobacco, "Chew or Snuff Is Real Bad Stuff," and distributed it widely to elementary and secondary school principals, school nurses, and curriculum supervisors. The two organizations also collaborated to develop an education videotape for sports coaches and to sponsor a national press conference, "Through With Chew," highlighting the adverse health and social effects of using smokeless tobacco.
3. IBP produced two consensus handbooks based on the results of intervention research supported by the Smoking, Tobacco, and Cancer Program: "How to Help Your Patients Stop Smoking: A National Cancer Institute Manual for Physicians" and "School Programs to Prevent Smoking: A National Cancer Institute Guide to Strategies That Succeed." NCI also cooperated with the Advocacy Institute to produce and distribute the handbook, "Media Strategies for Smoking Control," based on guidelines for working with the mass media developed at an NCI consensus workshop.

4. In collaboration with the American Pharmaceutical Association (APhA), NCI continued promotion of the pharmacists' "Helping Smokers Quit" kit, including a special promotion to student APhA chapters. Results of a national "Helping Smokers Quit" mail survey conducted by APhA were analyzed and will be used to revise the kit materials.
5. NCI distributed a Spanish public service announcement through the Univision and Telemundo TV networks to promote its new Spanish stop-smoking guide, "Guia para Dejar de Fumar." NCI also cooperated with the Office on Smoking and Health to produce and distribute a new TV spot, "Smoking Helping Hand," that encourages smokers who are trying to quit to call the Cancer Information Service for information and counseling.
6. In cooperation with the Smoking Policy Institute, IPB completed production and distributed "Smoking Policy Questions and Answers," a series of 10 fact sheets on environmental tobacco smoke and worksite policies.
7. IPB staff provided ongoing technical assistance to NCI's Smoking, Tobacco, and Cancer Program in the development of plans and protocols for the public information component of the American Stop Smoking Intervention Study (ASSIST).

Nutrition Education

The nutrition education component of the Cancer Prevention Awareness Program continued its efforts to reduce the incidence of diet-related cancer through information and education programs that promote the public's adoption of risk-reducing dietary practices.

1. Program efforts during FY 89 focused on the development and distribution of practical products that intermediary organizations can use to communicate NCI's diet messages. IPB completed production of "Eating for Good Health," a community speaker's kit on nutrition and cancer prevention, and premiered it at the national conference of the National Association of Extension Home Economists. IPB also completed work on a technical version of the speaker's kit for use by NCI staff and other nutrition scientists.
2. To introduce its nutrition education initiative to nutrition professionals, IPB developed and distributed a 12-month nutrition poster series. The Department of Defense and the United Fresh Fruit and Vegetable Association printed additional copies of the series for their own distributions.
3. IPB collaborated with staff in NCI's Division of Cancer Prevention and Control and the Food Marketing Institute to begin planning a national adaptation of the NCI-Giant Food supermarket point-of-purchase nutrition education program, "Eat for Health." The intervention component of the program ended in FY 89, and IPB continues to provide assistance in the evaluation component.
4. Active article placement activities directed at the lay print media

resulted in sustaining the high-volume distribution of the booklet, "Diet, Nutrition and Cancer Prevention: The Good News," at about 100,000 copies per month.

5. "Eating for Life," a booklet produced jointly by NCI and the National Heart, Lung, and Blood Institute was distributed and stimulated much interest in the press and nutrition communities. Three private-sector companies reprinted and distributed the booklet for NCI, and Woman's Day magazine published a lengthy article based on information from the publication.
6. In a joint project with the American Dietetic Association, American Academy of Family Physicians, and American College of Physicians, IPB developed and is pilot testing a primary care physician's manual on nutrition to help doctors implement diet modification strategies for their patients during the course of usual office visits.
7. For the Cancer Information Service telephone counselors, IPB developed a comprehensive nutrition training manual that will serve as an education resource for many other nutrition-concerned intermediaries.
8. IPB provided extensive technical assistance during FY 89 to the nutrition task force of the District of Columbia Commission of Public Health, which is developing a detailed nutrition education plan for the city.

Minority Health Education

Through its Cancer Prevention Awareness Program for Black Americans, NCI is conducting an active communications campaign that uses two complementary approaches for reaching black audiences: the mass media and community organizations.

1. During National Minority Cancer Awareness Week in April, IPB distributed media kits to the nation's black, Hispanic, and urban print media and radio stations and worked with Cancer Information Service offices in major cities to stimulate local coverage of the cancer problem among blacks and Hispanics. To launch the week, IPB hosted a national kickoff event in Washington, D.C., attended by key government officials and representatives of leading black organizations.
2. To support release of the "Eat Your Way to Good Health" public service campaign, IPB placed print advertisements and articles and arranged for speakers on broadcast programs. Messages reinforce the positive features of the black diet and encourage simple changes in food selection and preparation for a more healthful diet.
3. During FY 89 IPB developed a community action kit on nutrition that provides menus, tip sheets, and reproducible artwork for use by organizations in developing effective nutrition outreach programs. Initial testing, promotion, and distribution of the kit were carried out through three key black intermediaries: The Links, Inc., Alpha

Kappa Alpha Sorority, Inc., and the Auxiliary to the National Medical Association.

4. Efforts continued in FY 89 to strengthen and expand the Joint Health Venture (JHV), part of the Partners in Prevention network of organizations working with NCI to encourage cancer prevention programs. Key JHV representatives provided formal input to NCI through participation in the program's advisory committee which met twice in FY 89. Special subcommittees developed recommendations concerning the role of black churches in cancer prevention awareness and the enhancement of the grantsmanship and contract preparation skills of black colleges and universities.
5. NCI formalized relations with the National Medical Association and the Auxiliary to the National Medical Association through a Memorandum of Agreement outlining specific ways that the groups will work together to further cancer prevention awareness in the black community.
6. NCI awarded master agreement contracts to five organizations to plan and conduct cancer prevention awareness projects for the black community using a variety of messages and approaches: involving black churches in educating members and the community at large; training community leaders to organized cancer prevention and early detection outreach efforts; using the mass media to reach black males; and using nurses and health educators in public health clinics to deliver cancer prevention messages to patients. The projects, which use NCI-developed print and audiovisual materials for black audiences, are being conducted in New York City, Philadelphia, Detroit, Houston, Chicago, and other urban centers in Illinois.
7. To address the critical issue of cancer mortality among blacks in the District of Columbia, IPB established a special D.C. communications initiative to assist the District's health department in developing and implementing an effective cancer prevention and control plan for the city. IPB is providing assistance in conducting market research, reviewing messages and materials, and serving as an ongoing source of consultation and technical assistance. Special materials IPB developed in FY 89 for the initiative include a local adaptation of NCI's "Eat Your Way to Good Health" poster and two television public service announcements featuring Washington Bullets basketball coach Wes Unseld.
8. IPB provided materials and technical assistance to NCI's Division of Extramural Activities in the development and start-up phase of a special contract-supported project to build cancer prevention awareness in the black community through historically black colleges and universities.
9. To determine how important minority health topics can be framed and marketed to attract the attention and continuing interest of writers, producers, and editors, IPB began planning during FY 89 for a series of regional minority media forums it will conduct to involve key minority media and public health professionals. To investigate the

information needs of Hispanic journalists, IPB also participated in the National Hispanic Media Conference in San Juan, Puerto Rico.

Early Cancer Detection

Scientists estimate that breast cancer deaths would decline by at least 30 percent if women followed mammography screening guidelines. Although mammography rates are rising, only about 30 percent of women over 50 report having a mammogram within the past year. In FY 89 IPB led an NCI-wide Women's Cancer Detection Awareness program to increase, through education and promotion activities, the use of mammography in particular. Activities have focused on collaborative project development and implementation and overall program planning, with ongoing materials development and distribution.

1. IPB completed a literature review, focus group research, and review of existing programs and materials to complete a comprehensive background planning paper for its mammography education initiative. The paper was shared with professional organizations, NCI grantees, and other groups interested in undertaking education and outreach efforts.
2. IPB provided assistance to and collaborated with the American College of Radiology (ACR), the American Cancer Society, and eight other professional organizations in an ACR-sponsored national press conference on mammography guidelines held in June 1989.
3. IPB promoted its consensus guidelines on mammography screening through active article placement activities with the popular press and through the communication channels of the medical organizations that endorse the guidelines.
4. IPB planned and coordinated activities for the Women's Leadership Summit on Mammography, a luncheon and seminar in Washington, D.C., that included leaders of major women's organizations, women legislators, executives, and civic leaders. First Lady Barbara Bush delivered the keynote address. The purpose of the event was to elicit the commitment of organizations to educate their members and constituents about the benefits of mammography.
5. In support of followup mammography education activities, IPB completed planning during FY 89 for co-sponsorship of National Breast Cancer Awareness Month in October; multiple media projects with the American Association of Retired Persons; an information campaign with the Health Care Financing Administration to publicize the new Medicare coverage for mammograms; conduct of physician focus groups with private-sector support; and a conference with the American College of Obstetricians and Gynecologists and other appropriate primary care medical groups to enlist their participation in mammography education.
6. IPB collaborated with the Susan G. Komen Foundation to develop and distribute radio and television public service announcements featuring actress Jill Eickenberry and singer Nancy Wilson. The spots encourage women to have regular mammograms to detect breast

cancer as early as possible.

7. Other materials produced during FY 89 in support of mammography education activities included tip sheets on how organizations can promote mammography to members, a promotional mammography flyer containing quality-related questions a woman can ask of potential mammography facilities, camera-ready articles, and press kit materials. In addition, IPB provided writing and technical assistance to NCI's Division of Cancer Prevention and Control in the development of an idea book for developing mammography programs in state health departments.

PATIENT EDUCATION

The Patient Education Section of IPB is responsible for developing and promoting state-of-the art education and information programs that enable cancer patients and their families to participate in treatment decisions and care and to achieve the best possible quality of life. The Section's programs are targeted at cancer patients, their families, health professionals, and the general public. During FY 89, efforts have been made to target special groups of health professionals to ensure that the programs and resources are meeting the needs of the intended audiences.

Partners in Patient Education

A highlight of FY 89 was launching the Partners in Patient Education Network. Patient educators from the 21 comprehensive cancer centers met at NCI for a two-day meeting in February 1989 and educators from the 22 clinical cancer centers met in July 1989. The educators explored how they could use a network to share ideas and resources with one another and how NCI could more actively involve them in the design of cancer patient education resources and programs.

Representatives from the national office of the American Cancer Society, the American Hospital Association, and the Veterans Administration Medical Center attended these meetings. As a result of the meetings, profiles of each cancer center patient education program are being assembled and will be included in a guide that will be provided to all the center educators. Plans are underway for a March 1990 meeting of all the clinical and comprehensive cancer center patient educators that will be held at the University of Texas M.D. Anderson Cancer Center.

Patients Helping Progress: Cancer Clinical Trials

In response to the NCI initiative called "Patients Helping Progress: Cancer Clinical Trials" that is designed to double the number of cancer patients enrolled in treatment studies by 1992, an information and education program is being coordinated by the Patient Education Section. Promotional efforts aimed at increasing accrual to clinical trials in general and specific high priority trials continue to produce good results. Project accomplishments during the past year included the following:

- o Training 250 Cancer Information Service phone counselors to respond to questions about clinical trials. Training packages, including an

Office Reference Manual, were developed and provided for all 26 CIS offices. In 1988, the phone counselors responded to 56,000 calls regarding clinical trials, compared to 39,000 calls in 1986.

- o Developing and producing an educational pamphlet, "Cancer Treatments: Consider the Possibilities," designed to motivate patients to consider clinical trials as a treatment option. The publication will be promoted to health professionals through advertisements in journals and newsletters.
- o Presenting the NCI initiative to many groups of health professionals through exhibits at numerous professional meetings such as American Society for Clinical Trials, Oncology Nursing Society, and cooperative group annual meetings.
- o Completing negotiations with Bristol-Myers and the American College of Surgeons for a \$250,000 donation to develop educational videotapes for physicians and patients on clinical trials.
- o Placing numerous articles in the lay press regarding clinical trials through proactive press work.

Physician Data Query-Patient Information File

The Patient Education Section is continuing its coordination with the NCI International Cancer Information Center in an effort to expand and refine the patient information statement component of the Physician Data Query (PDQ) system. Two meetings of an external advisory board were held, and prototype statements for the patient information file have been prepared. Currently, all of the information statements are being rewritten and will be included in the PDQ file in early fall 1989.

Cancer Survivors Project

About 5 million Americans living today have had cancer at some time in their lives. Recent advances in detection and treatment have enabled cancer patients to live longer after treatment. The goal of the Cancer Survivors Project is to enhance the quality of life of cancer survivors through the provision of needed information and education.

Numerous activities were undertaken in FY 88 to meet this goal:

- o Preparing an annotated bibliography of cancer survivor literature.
- o Contracting with the National Coalition for Cancer Survivorship (NCCS) to assist in developing an informational resource targeted to cancer survivors.
- o Presenting an overview of the Cancer Survivors Project plan at the annual NCCS conference.
- o Conducting focus groups with NCCS members concerning major survivorship issues.

- o Exhibiting project information at the annual NCCS conference.
- o Developing a three-year long-range plan for the Cancer Survivors Project.
- o Conducting focus groups with cancer survivors to pretest a resource guide before final printing.
- o Including information on survivorship issues in OCC patient publications being revised.
- o Initiating work on a chapter for a textbook on cancer survivorship.

Patient Education Publications

OCC provides numerous patient education materials for cancer patients, their families, and health professionals. They cover a wide-range of cancer-related topics including diagnosis, specific cancers, treatment, post-treatment, and psychosocial aspects and are targeted to children and adults.

Patient Education Section staff are responsible for updating all publications. In FY 88, information on clinical trials and survivorship was added to all publications. Efforts are also being made to lower the reading level of the publications or produce low-literacy versions.

The following publications are currently being revised:

- o After Breast Cancer
- o Breast Biopsy
- o Chemotherapy and You
- o Diet and Nutrition
- o Eating Hints
- o Help Yourself (for teenagers)
- o Radiation Therapy and You
- o When Cancer Recurs
- o When Someone In Your Family Has Cancer

The following low-literacy publications are currently being developed:

- o Chemotherapy and You
- o Radiation Therapy and You

New publications added to the patient publication inventory include:

- o Managing Interleukin II
- o Cancer Treatments: Consider the Possibilities

EVALUATION PROGRAM

The goal of OCC's evaluation efforts is to provide data on current progress and feedback for shaping future program direction. A separate evaluation contract was awarded in January 1989 for a five-year award. Under the first year of this recompeted evaluation contract, two major surveys were completed:

1. Psychographics (Audience Segmentation): A nationally representative telephone/mail survey to 1200 U.S. households which delineates target audiences based on preferences and value rather than traditional demographics.
2. National Knowledge, Attitudes and Behavior (KAB) Survey: A continuous, nationally representative survey of 2600 persons a year (50 individuals a week) which assesses the general public's KAB regarding cancer and the impact major events have upon their cancer perceptions. This survey was begun in September 1988 and resumed after new contract award in 1989.

Other projects completed in FY 89 are as follows:

1. NCI/Giant Food Project: Evaluation of Giant Consumer Education on Diet and Cancer - In 1989, the third and final survey was completed. DCPC is analyzing results.
2. Process Evaluation - A summary report of process data was produced quarterly. It links various tracking measures including PSAs, CIS calls, publications ordered, and IPB staff persons contributions of technical assistance via telephone or via presentations, interviews, or consultations. Two quarterly reports were produced.
3. Patient Education Evaluation - Focus groups of cancer survivors were conducted in September 1989; evaluation of CIS training sessions on clinical trials information was conducted, and evaluation of patient education partners' initiative was begun in FY 89.
4. Health Promotion Evaluation - A final report of the "Helping Smokers Quit" survey was produced; focus groups on women's perceptions of mammography were conducted; pilot testing of minority nutrition materials was initiated; evaluation of the nutrition as well as Black Speaker's Kit was completed in FY 89.
5. Evaluation of the Clinical Trials Accrual Project - An evaluation was implemented to gather data on accrual to the trials and process measures. Process measures include tracking of calls to OCC staff persons, presentations, media coverage, hometown newspaper releases, calls to CIS, requests for information packets at exhibits, and inquiries to PDQ. Three quarterly process reports were produced.

IPB also provided technical support for ODPHP in planning their program on "Formative Research on the Communication about Diet, Exercise, and Weight Control to the Hard to Reach Population."

The staff of the Information Projects Branch consists of Katherine Crosson, chief, Patient Education Section; Jeffrey McKenna, chief, Health Promotion Section; Linda Bass, John Burklow, Shelagh Smith, Lynn Tribble, Elizabeth Tuckermanty, and Cori Vanchieri, program staff; and Jacieda Briscoe, Sylvia Pines, John Scott, and Elizabeth Spicher, support staff.

Seven interns trained in the branch during portions of FY 89 as part of the OCC internship program: Elena Carbone and Maree Hampton (July-December 1988),

Shelly Croci (January-August 1989), Kymber Williams (June-August 1989), Julie Neild (July-December 1989), and Linda Baute and Wendy Fenner (September-December 1989).

IPB staff members were authors in the following publications:

Numerous articles for the News Section of JNCI.

Light L, Portnoy, B, Blair JE, Smith, JM, Rodgers, AB, Tuckermanty, E, Tenney J, Mathews O. Nutrition education in supermarkets, Fam Community Health 1989;12(1):43-52.

Light L, Tenney, J, Portnoy B, Kessler L, Rodgers A, Patterson B, Mathews O, Katz E, Blair J, Evans SK, Tuckermanty E. Eat for Health, Testing the Effectiveness of Supermarket Interventions, Public Health Reports. In press.

IPB staff members were co-authors in the following poster presentation:

Davis S, Bagley C, Johnson J, Speyer J, Seay J, Stone J, Smith S: The Impact of a Booklet about Clinical Trials on Cancer Patients' Attitudes Knowledge and Participation in Trials," Cancer Communications Systems Annual Meeting, October 1988.

Contractor support for OCC in communication design, development, and evaluation is provided by Prospect Associates, Ltd.

INFORMATION RESOURCES BRANCH

The Information Resources Branch is a service branch with numerous responsibilities to support the activities of the Office of Cancer Communications (OCC). The Branch includes the Document Reference Section (DRS) which is a central information resource for both OCC and the Institute. The DRS houses an extensive in-house collection of publications, news releases and audiovisuals and provides easy access to a number of on-line databases. The DRS is a major resource for OCC staff responsible for answering press and public inquiries and for staff and contractors developing new materials for patients and professionals.

The DRS is also responsible for responding to requests for information made under the Freedom of Information Act. This function was transferred to the DRS from the Graphics and Audiovisual Section this year.

The Graphics and Audiovisual Section (GAV) is also included within the Information Resources Branch. GAV is responsible for coordinating the major portion of NCI graphic design and printing requirements as well as for the OCC Exhibit Program and a variety of other services.

Nancy Brun continued as Branch Chief and Carla Campbell, as Editorial Assistant. Jean Moore, who is in her fourth year as a volunteer, continued her extraordinary service in providing an almost daily edition of Current Clips, serving as clearance coordinator and logistical coordinator for the Museum exhibit "Closing In On Cancer."

Graphics and Audiovisual Section: A major responsibility of the GAV Section is design and production of the vast majority of all NCI printed materials. The section, however, has other important responsibilities, namely the planning, design, and production of OCC exhibits and the management of the Exhibit Program; widespread distribution of OCC publications through U.S. supermarkets and audiovisual materials through a nationwide free-loan program; development and maintenance of photo/slide archives and responses to requests for these materials; production of audiovisuals, such as slide-tape

shows, films, TV and radio public service spots, and video footage for media use; coordination of NCI special events, such as award ceremonies; development and maintenance of NCI mailing lists as well as coordination of OCC mailings; NCI publication and speech clearance; and production and distribution of the "NCI Current Clips." Listed below are some highlights from these projects.

Design and Printing Services: By the end of the fiscal year, it is estimated that NCI staff will have submitted more than 300 jobs to the Section for printing production. Many, submitted in manuscript format, required major design work as well as coordination through the final production stage. This year's major accomplishment was the design and introduction of the Institute's new logo and corporate identity system. The new logo, which consists of the interwoven words "National Cancer Institute" with a bar below to provide a base and strengthen the visual impact, replaced the NCI logo that was developed in 1980.

Another major accomplishment was the design and production of the NCI Nutrition Poster Series. The series, which highlighted the Institutes nutrition guidelines and featured twelve visuals to illustrate these guidelines, proved to be one of the most popular pieces produced in recent years. Its value was extended when the Department of Defense reproduced 7,000 copies of each poster to display in cafeterias around the world.

Other publications designed and produced this year include the Quit For Good kit, Horizons of Cancer Research; Managing Interleukin-2; Making Health Communications Programs Work; Helping You Help Your Patients; How to Help Your Patients Stop Smoking; as well as materials for the clinical trials recruitment program and the early cancer detection program.

Exhibit Program: The Exhibit Program continued to be an effective way of communicating NCI health education messages face-to-face with targeted professional audiences. A five-year exhibit support contract was signed this year with Production House Inc., and will be shared with the International Cancer Information Center. Lisa Jones, serving as Production House Project Manager, will direct exhibit activities. OCC will have attended 6 professional and public meetings this fiscal year. These included: Oncology Nursing Society; American Association of Clinical Oncology; American Association of Cancer

Researchers; Pride in Public Service (on the Mall); National Medical Association; and the National Association of Extension Home Economists.

"Closing In On Cancer," two identical 500-square foot exhibits on the history of cancer and cancer research, developed for the NCI's 50th Anniversary in 1987, continue to travel to science museums throughout the country. Booked through 1991, these popular exhibits have appeared in 1989 at the Southern Illinois School of Medicine and Research Museum in Springfield, Illinois; Baylor Medical Center in Dallas; University of Arkansas Medical Center in Little Rock; Arizona Museum of Science and Technology in Phoenix; and University of Iowa in Iowa City. The exhibit has received much publicity and many visitors in each city. It is frequently used as a central focus for cancer-related events such as the ground breaking for a new cancer center or cancer awareness programs etc.

Audiovisual Services: GAV continued efforts in reorganizing and increasing the size of its slide/photo archives. Still underway is the enormous task of organizing, developing, and implementing a computer-based identification and retrieval system for each piece in the collection. GAV responded to hundreds of requests for photographic services during the year. Many requests were for "portraits" of NCI scientists, while other requests filled the need for illustrations of various elements of NCI research.

This year, in cooperation with the Information Projects Branch, a technical version of the nutrition speakers' kit was developed. This kit, using newly designed graphics and striking photographs, has been produced for use by nutritionists and other health professionals.

Another major project was the production of 30-second and 10-second television and radio public service announcements. Produced as an animated cartoon, the PSA's were designed to let shoppers know that the pamphlet Eating For Life is available at their supermarket's "Good Neighbor" bulletin board.

GAV and IPB also collaborated on a public service announcement on smoking. Featuring Wes Unseld, coach of the Washington Bullets basketball team, the PSA is designed as a stop-smoking message to Washington, D.C., area residents.

Publications and Audiovisual Distribution Services:

Through a contract with Supermarket Communication Systems, Inc. (SCS), the Section distributed more than one-million publications in 7,000 supermarkets throughout the country. Titles distributed this year included Breast Exams:

What You Should Know; Diet Nutrition and Cancer Prevention: The Good News; and Eating For Life.

In a pilot program with SCS, the Section also distributed 50,000 copies of Chew or Snuff Is Real Bad Stuff in Pharmacies in the New York City/Connecticut/New Jersey area.

Through a contract with Modern Talking Picture Service, Inc. (MTP), the Section continued distribution of NCI-developed videotapes and related written and audiovisual materials on melanoma and dysplastic nevus syndrome. In addition the NCI film "It Takes A Special Love..." continued circulation in a free-loan distribution program with MTP. More than 100,000 persons will have seen this film by year's end. Programs are also being developed for a cancer prevention speakers kit for Blacks, a Nutrition speakers kit and a film to encourage students into biomedical research called "The Learning Never Stops."

Clearance and Newscipping Services: The section provides a daily newspaper clipping service for the NCI professional staff, the Cancer Information Service, and members of the President's Cancer Panel, and the National Cancer Advisory Board. The section screened eight major daily newspapers, and a variety of weekly and monthly scientific and lay magazines and journals for topics of current scientific and political interest to NCI. Approximately 150 non-research materials, including pamphlets, fact sheets, special communications, NIH Record stories, speeches, and press releases, were submitted to the section and processed through clearance.

Special Events: The Section is responsible for the coordination of Institute special events. This year nearly 150 NCI staff attended the Annual NCI Awards Ceremony at Wilson Hall in October.

In January, the Section had the honor of coordinating the Swearing-in Ceremony of Samuel Broder as new Director. This included responsibility for design, production and distribution of invitations, coordination with DHHS officials on matters relating to the program and its participants; selection of location and all logistical arrangements; and all arrangements for the reception following.

Mailing Services: During the year the Section continued the task of maintaining NCI mailing lists and accommodating individuals asking to receive publication lists and/or all issues of CANCER FACTS. Approximately 200,000 mailings were made this year.

The Section underwent one staff change during the year. Donna Bonner joined the staff as Section Chief in January. Continuing on the staff are Margaret Bartlett, Visual Information Specialist responsible for the development and maintenance of the slide archives and the production of a variety of audiovisual materials and Elizabeth Johnson, Visual Information Specialist responsible for the design and production of printed materials.

Document Reference Section: The Document Reference Section is a central informational resource for OCC and the Institute. Published and unpublished materials are collected, indexed and made available to specific users. The in-house collection is made up of public/press inquiry records, news clips, scientific publications, audiovisuals and other significant documents. The on-line catalog of holdings is used to locate items as needed, and is accessible by subject, author, title and accession number. Over the past year, the collection/database has grown by nearly 2,000 items to a total of 70,000. Significant weeding of older materials has also taken place.

In addition to work with the collection, section staff provide access to other major health-relevant databases. These include databases sponsored by the National Library of Medicine, (MEDLINE, PDQ, CANCERLINE, TOXNET, etc.), Colleague (from Maxwell Online) and Medis from Mead Data. Access to current news databases such as those offered by CompuServ, VuText and DataTimes allows the section to support the Institute with data useful in public information work. This year, searches by section staff aided health health communicators, scientist-administrators, and public information specialists in responding to inquiries and developing information projects.

Responsibility for supervision of the Institute's Freedom of Information/Privacy Act also resides in the Section. It is estimated that by the end of the fiscal year, 100 FOI requests and 10 Privacy Act requests will have been processed.

The Freedom of Information/Privacy Act coordinator is Ms. Dorothy Hinden. Additionally, the Section is staffed by two librarians, Patti Dickinson, section head, and Judith Grosberg. In June 1989, Angela Chow, a student at the University of Maryland School of Library and Information Science, completed a six-month fellowship in the section. July 1, Laura Baird, a student at Simmons College School of Library Science began a six-month fellowship. A stay-in-school aide, Nho Nguyen, worked in the section from September 1988 until January 1989. While working in the section, Mr. Nguyen continued his study of computer science at Montgomery College. In February, Hong Vo, a student at Montgomery College in electrical engineering, joined the staff as a stay-in-school.

OFFICE OF CANCER COMMUNICATIONS, NCI
October 1988 - October 1989

REPORTS AND INQUIRIES BRANCH

The Reports and Inquiries Branch responds to inquiries about cancer from cancer patients and families, health professionals, the public, and the news media, and disseminates information on research findings and National Cancer Institute activities and messages. Information dissemination occurs in a variety of forms, including reports and other publications, speeches and congressional briefings, magazine articles, news releases and fact sheets for the news media, patient publications, materials on cancer prevention and early detection, a toll-free cancer information line, and community outreach programs. This year, the Branch also networked with public affairs offices at comprehensive cancer centers to develop a videotape for training institutional spokespeople to deal effectively with the media.

The Branch includes three sections: 1) Reports Section (Press Office), 2) Public Inquiries Section, and 3) Cancer Information Service Section.

Eleanor Nealon is branch chief and Florence Shaw is the branch secretary.

Reports Section

The section finished work on a major new report chronicling progress in cancer research, with emphasis on the gains that have been made since the National Cancer Act was passed in 1971. This project was headed up by the Section Chief.

Section staff continued to respond to about 5,000 inquiries per year from journalists representing daily and weekly newspapers, magazines, trade newsletters, and the electronic media, as well as newspapers, magazines for physicians and scientists. The staff also initiated contacts with the media on numerous occasions to remind them of upcoming meetings, press conferences, or major reports, and assisted in running NCI press conferences. The average daily number of press calls received in the section was 20-25 calls, a rudimentary record-keeping system to record all in-coming telephone calls, section staff handled a minimum of 13,200 telephone calls during the year for a monthly average of about 1,100 calls.

The reporters' inquiries spanned the breadth of cancer research topics. There was interest throughout the year in AIDS research, particularly on risk factors and drug and vaccine development. A significant number of calls focused on a new urine test being developed to detect bladder cancer, the Nobel prizes, AZT, Kaposi's sarcoma, risk of cancer from radon exposure, diet, natural products, a national committee to examine development of AIDS drugs, breast cancer, appointment of new NCI director, oral contraceptives and risk of breast and uterine cancers, clinical trials results, cancer in blacks and other minorities, adjuvant therapy for breast cancer, smoking on commercial airlines, cyclamates, basic cancer statistics, and the first gene transfer trial.

To more effectively respond to inquiries from the press, section staff prepared research updates, backgrounders, statements, news releases, and fact sheets on a wide variety of cancer research topics. Many of these materials were subsequently modified by the Public Inquiries Section and used to respond to inquiries from the general public.

The written materials prepared by the staff include:

Updates

New Growth Factor for Kaposi's Sarcoma Isolated, October 1988
Urine Test May Aid Early Detection of Bladder Cancer, October 1988
Sun Exposure Causes Many Types of Skin Damage, November 1988
IL-2 Therapy Found More Effective for Advanced Melanoma, December 1988
American Stop-Smoking Intervention Study (ASSIST), February 1989
Additional Treatment May Benefit Patients with Node-Negative Breast Cancer, February 1989
NCI Scientist from Germantown Receives Award, March 1989
NCI Scientist from Kingston Receives Cancer Research Award, March 1989
Scientist at FCRF Receives Markey Scholar Award, April 1989
Gene for Hereditary Melanoma Found on Chromosome 1, May 1989
Photodynamic Therapy, June 1989
Long-Term Postmenopausal Hormone Therapy Increases Breast Cancer Risk, August 1989

Press Summaries

25th Annual Meeting of the American Society of Clinical Oncology, May 1989

In Vitro Drug Sensitivity Testing Results Correlate with Chemotherapy Response and Survival in Extensive Small Cell Lung Cancer
Is the Ability to Metabolize Debrisoquine a Lung Cancer Susceptibility Factor or a Tumor Marker?
Limited Stage Small Cell Lung Cancer Treated with Concurrent Etoposide/Cisplatin Plus BID Chest Radiotherapy
Quality of Life in Long-Term Survivors of Childhood and Adolescent Central Nervous System Tumors
Relatively Low Expression of the Multidrug Resistance Associated MDR1 Gene Occurs in Most Lung Cancer Tumors and Cell Lines
Suramin: An Antagonist of Heparan-Binding Tumor Growth Factors with Activity Against a Broad Spectrum of Human Tumors

80th Annual Meeting of American Association for Cancer Research, May 1989

DNA Adduct Formation in Tissues of Human Cancer Patients

Fifth International Conference on AIDS, June 1989

Phase I study of the Administration of Recombinant Soluble CD4 (rCD4) by Continuous Infusion to Patients with AIDS or ARC
AIDS-Kaposi's Sarcoma (KS) Derived Cells Express Cytokines with a Potential Role in the Pathogenesis of KS Lesions
Infection of Rhesus Macaques with Molecularly Cloned HIV-2
Molecular Interactions Between HHV-6 and HIV-1 in Coinfected CD4+ T Cells Lead to Increased HIV-1 Gene Expression
Escalating Dose Phase I Study of Intravenous and Oral 2', 3'-Dideoxyinosine (ddI) in Patients with AIDS or ARC
High Perinatal HIV Rates with Prematurity of Low Anti-CP120

Human Herpes Virus-6 (HHV-6) as a Potential Cofactor
HIV-1 and HTLV-1 Antibody Prevalence in a U.S. Population Survey: NHANES-II

Fact Sheets

NATIONAL CANCER INSTITUTE for the NIH Almanac updated, through FY 1988, March 1989
NCI's Clinical Trials Cooperative Group Program, March 1989
Monoclonal Antibodies and Cancer, March 1989

News Releases

Passive Smoking on Commercial Airline Flights, February 1989
Surgeon General Joins in Challenging Doctors to Counsel Smokers, April 1989
Seven Year Grant to D.C. Commission of Public Health, June 1989
Five Grants Awarded to Reduce Cancer Mortality, June 1989

Backgrounders

Biological Therapies: Newest Form of Cancer Treatment, December 1988
The Outstanding Investigator Grant, May 1989

Statements

Recent Modification of IL-2 Cancer Therapy, November 1988
Gene Transfer Trial Approved, January 1989
Oral Contraceptives and Breast Cancer, January 1989
NCI Cancer Mortality Studies in Areas of Nuclear Facilities, February 1989
Scientists Develop Simple Test to Screen Candidate AIDS Drugs, April 1989
Early Results Reported on ddI as AIDS Therapy, July 1989

NIH Almanac

Updated NCI Information Through Fiscal Year 1988 and also printed it as an NCI fact sheet.

Notes to Reporters and Editors

Broder and Gallo Receive CIBA-GEIGY Drew Award, October 1988
Cancer Diagnosis, Treatment and Prevention in Minority Populations, March 1989
Minority Cancer Awareness Week, March 1989
Smokeless Tobacco Growing Problem, June 1989

Moyer Reports for 1988

Aging
Diabetes
Sexually Transmitted Diseases
AIDS

Special Communication

Major New Report Calls for Intensified Efforts to Reduce Cancer Deaths, NCAB, February 1989

Biographies

Samuel Broder, M.D., November 1988
Steven A. Rosenberg, M.D., of NCI Recieves Griffuel Prize for Research, November 1988

JNCI News Stories

October 5, 1988 Issue

Scientists Progress in Learning How Drug Resistance Works
Cardiac Drugs Could Improve Cancer Treatment
Appointments

October 19, 1988 Issue

Research Facing Imminent Deficit of Minority Scientists
Comprehensive Minority Biomedical Program Encourages Involvement
in Cancer Research
Radon Revisited; Smokers Beware

November 2, 1988 Issue

New Technique Boosts Hopes for Early Lung Cancer Detection
NIH Launches Human Genome Effort
Michigan Named Clinical Cancer Center
Retinoblastoma Gene Research Takes New Direction
Breast Feeding Linked to Decreased Cancer Risk for Mother, Child
Gallo's Laboratory Meeting
First Human Gene Transfer Trial

November 16, 1988 Issue

Stop Cancer Campaign Seeks to Raise \$1 Billion Extra for Cancer
Research
Nobel Prize for Medicine Awarded to Elion, Hitchings, Black

December 7, 1988 Issue

Scientists Discover Proto-Oncogene Role in Normal Development
AACR Begins Molecular Biology Conferences

January 4, 1989 Issue

Chew's on First, Dip's on Second: Smokeless Tobacco Use Heavy
Among Baseball Players
Nation's Leaders of Clinical Trials Discuss Future
Cancer Watch: Top News Stories of 1988

January 18, 1989 Issue

"Bonanza Sweepstakes" Bags Millions for Cancer Groups -- How Much
for Cancer?
Walker Cancer Research Institute
Perspective: What Makes a Cell Run Wild?
New Technique to Diagnose Eye Cancer Being Tested
Reagan Names Samuel Broder as Director of National Cancer Institute

February 1, 1989 Issue

Scientists Seek Clues to Breast Cancer Outcome
Administrative Remedies Proposed for NIH

February 15, 1989 Issue

In Laboratory Research, Yesterday's Visions are Today's Tools --
And They are Expensive
The Pill and Breast Cancer: Is there a Connection?
Gene Transfer Trial Approved

March 1, 1989 Issue

FDA Approves New Drug Therapy for Prostate Cancer

March 15, 1989 Issue

One Woman Begins Fight to Eliminate China's Massive Smoking Problem
Biologicals Studied Increasingly as Treatments for Childhood Cancer
Passive Smoking: Exposure Occurs on Commercial Flights

April 5, 1989 Issue

NCR Report on Diet and Health: An Ounce of Prevention
Research Advocacy Group Formed

April 19, 1989 Issue

Scientists Discover Proto-Oncogene Role in Normal Development
AACR Begins Molecular Biology Conferences

May 3, 1989 Issue

Cancer Clusters Are in the News; States Take Action
What is a Cluster?
A Review: New Discoveries Allow Oncogenes to Reclaim Limelight
White House Physician Lee to be Active in Health Policy
Many Factors Contribute to Racial Differences in Cancer Experience

May 22, 1989 Issue

Fighting Cancer with Cigarette Taxes
Uncertainties Abound in Radon Research: Lung Cancer Risk Hard to
Quantify

June 7, 1989 Issue

Cancer and AIDS Groups Push for Changes in Drug Approval Process
Oral Complications of Cancer Therapy
Genome Project Picking Up Speed

June 21, 1989 Issue

GM Awards: Five Scientists Cited for Cancer Research
Crystallography: Structural Biology Comes of Age
Alaskan Teenagers Receive Awards for Work to Counter Chew and Snuff
FDA OK's Colon Cancer Treatment for NCI's Group C/Treatment IND
Program
Gene Transfer Study Under Way
Panel Wants Less Exposure to Ultraviolet Radiation
NIH Building Renamed to Honor Pepper

July 5, 1989 Issue

Cancer is Focus of Biotechnology Research: U.S. Leads Growing Field
Phase III Trials of Photodynamic Therapy Now Underway
Diet and Smoking: Intervention Works Among Children

July 19, 1989 Issue

Scientists Adapt to Loss of Mice at Jackson Lab
Many State Health Departments Begin Major Cancer Control Efforts
Potential Gene Therapy for AIDS Described
Hoopla Competes with Science at the International AIDS Conference
AMA Members Now Can Get Cancer Data PDQ

August 2, 1989 Issue

Investigators Seek to Increase Taxol Supply
The Trials of Prevention Trials

August 18, 1989 Issue

ACS Reports on Cancer and the Poor
Swedish Studies Link Hormone Use to Increased Breast Cancer Risk
ACR Accredits Mammography Units
Genome Project to Expand Intramural Participation
New Project Begins to Test Ways to Cut Red Tape

NIH Record

Urine Test May Aid Early Detection of Bladder Cancer, October 1988
NIH Lecture, October 1988
Pediatric Nurse, Karen Montrella, October 1988
NCI Holds Awards Ceremony, November 1988
Mammography Beneficial for Women Over and Under Age 50, November 1988
Vivian McFarland Profile, November 1988
Florence Shaw wins 2nd Prize Frederick Co. Fair, November 1988
Steven A. Rosenberg, M.D., Ph.D. National Cancer Institute Receives Prizes, November 1988
Gallo Delivered Alix G. Mautner Lecture, December 1988
Samuel Broder, M.D., Director NCI, December 1988
Appointment of Editor-in-Chief, Dr. Ihde, December 1988
Dr. Weisburger Retires, January 1989
Renowned Cancer Researcher Michael B. Shimkin Dies, January 1989
NCI Researchers Win 1988 Cancer Research Awards, March 1989
NCI Scientist Receives Arnold J. Lehman Award, March 1989
Scientist at FCRF Receives Markey Scholar Award, April 1989
Caption under picture of Dr. Linus Pauling, April 1989
NCI Scientists Receive Ehrlich-Darmstaedter Award, May 1989
John Roderick Heller, Jr. Dies, May 1989
NIH Conducts First Approved Gene Transfer in Humans, May 1989
Dr. Waldmann Elected a Fellow in the American Academy of Arts and Sciences, June 1989
Dr. Mulvihill Receives Recklinghausen Award, June 1989
Brinton Elected President of Society for Epidemiologic Research, July 1989

All updates, backgrounders, statements, fact sheets, and notes to editors were routinely sent to about 250 reporters. The Section maintained a wide variety of mailing lists; and distributed OCC materials to the Cancer Information Service through a weekly special mailing.

The NCI's new report on cancer research, "Horizons of Cancer Research," edited by the section chief, was published early in 1989. The new, full-color report, in a magazine format, describes for the layperson advances that have been made in cancer research since 1971, describes the cutting edge of research today, and previews developments that appear to be on the horizon. The book covers advances in basic cancer research, in cancer diagnosis and treatment, and in prevention and control. To carry out this project, the section chief supervised freelance writers and copy editors, as well as the book's designer and production staff.

A senior Section writer prepared all the bi-weekly preparation of "In This Issue," a summary of key papers introducing each issue of the new Journal of the National Cancer Institute. This JNCI page is prepared mostly by freelance writers; however, selection of assignments, editing, clearances, formatting, and electronic transfer of copy to the journal is accomplished by Section staff.

Section writers also routinely prepare a wide variety of articles for the news section of the journal, under very tight writing and clearance guidelines.

The section continued to be responsible for the word processors, personal computers, and printers used by the Reports and Inquiries Branch and the OCC Associate Director's office. The section continued its efforts to upgrade the capability and reliability of the system which includes 14 word processors and 10 personal computers.

The section recruited several new staff members during the year. Elaine Blume, Kara Smigel, and Michael Newman joined the staff as science writers; Debbie Dortch joined as an editorial assistant.

Other permanent staff include: Patricia Newman, section chief; Linda Anderson, senior science writer; science writers Florence Antoine and Frank Mahaney; editorial assistants Barbara Anthony and Nancy Munro; and Marilyn Pazornik and Emily O'Brien, part-time information clerks. Temporary staff include graduate students Julie Corliss and Seema Kumar, who are performing internships in science writing; and student aides Si Tran and Ha Nguyen.

PUBLIC INQUIRIES OFFICE

OVERVIEW

With the passage of the National Cancer Act in 1971 and its mandate that requires the National Cancer Institute (NCI) to provide information about cancer to the public, to health care professionals, and to cancer patients and their families, the Public Inquiries Office has become a highly visible office within the NCI and to the general public.

The impact of this mandate, in FY 1989 alone, resulted in Public Inquiries' answering 194,000 telephone calls; preparing custom responses to 3,100 letters; maintaining an inventory of over 1,000 titles of publications; and distributing over 20 million of them. Public Inquiries oversees 16 national toll-free WATS lines that complement 62 lines in local Cancer Information Service offices; 25 full-time telephone information specialists; 8 full-time writers, and an 800,000 cubic foot warehouse.

In general, the volume of telephone calls, letters, and publications requested each year reflects the American public's growing interest in advances in cancer treatment, the amount of media attention given to cancer, and the efforts of the Institute to disseminate information and results of research. For example, in FY 1989 the Institute placed a special emphasis on efforts to increase patient accrual to clinical trials. This effort included a key element of using the telephone information specialists to inform callers about the availability of clinical trials and how to go about participating in clinical research. Information specialists are the most frequent users of the Institute's PDQ (Physician Data Query) treatment database, and in FY 1989, doubled the number of customized clinical trial searches performed in FY 1988 from 1,800 to 3,600.

The American public has an unparalleled interest in health information and, as never before, a readiness to seek it out. The people who call or write to the Institute are information-seekers, their questions are complex, they take a significant amount of time to answer, and managing the overall quality of the public response program has become an increasing challenge. Overall, there was a 20 percent increase in the number of inquiries from FY 1988 to FY 1989.

The following is a profile of what we know about the people who call and write us and what kinds of concerns they have.

- Seventy-two percent of inquiries were from cancer patients and their family and friends or people with symptoms of cancer. They want to know specific facts about diagnosis and tests, their illness, why things are being done, and what to expect during the course of illness.
- Twenty-two percent of inquiries were from the general public. This is due to the great interest in cancer prevention--people are trying to stop smoking and they are also trying to eat more fiber.
- Six percent of inquiries were from health professionals who were usually seeking clinical trial information.

- Treatment information was the most asked-about subject. This includes questions about surgery, radiation therapy, chemotherapy, clinical trials, and unproven methods.
- Breast cancer was the most often asked-about cancer site followed by lung and colon cancers.
- Inquirers were more likely to be women as they tend to be the health information seekers in the family.
- Writers and callers tended to be older than the population in general. This is expected since cancer incidence increases with age.

The sections that follow describe in more detail the activities of Public Inquiries in fiscal year 1989.

PUBLIC INQUIRIES ACTIVITIES

Answering Telephone Calls to the National Cancer Institute

The Public Inquiries Office is responsible for answering all telephone calls to NCI except those that are from the media or those that are directed to a specific staff member. In FY 1989 Public Inquiries received 24,000 telephone calls. These calls come from cancer patients and their families, the general public, other Cancer Information Service offices, physicians, nurses, social workers, congressional staff on behalf of their constituents, business and industry, foreign cancer patients/family members, lawyers, stock brokers, theorists (who have a cancer cure), students, and others. Inquiries ranged from simple questions about symptoms to highly complex questions that required extensive research.

The goal of Public Inquiries is to handle all calls appropriately; for some calls this may mean referral to the Cancer Information Service toll-free number. For others, such as those calls from Congress or health professionals or patients with complicated questions, the call is handled by a Public Inquiries information specialist. Because of the increasing complexity of calls, it is frequently necessary to conduct extensive research to respond to the incoming request. Treatment-related questions concerning drug side effects, home care of the cancer patient, etc. have reinforced the need to have an information specialist on staff who has clinical experience with cancer patients. Often, it is necessary to develop NCI position statements to respond to news reports on cancer breakthroughs (such as gene therapy) or to develop standard language that all CIS offices can use to answer similar questions (such as the risk of electric blankets causing cancer).

Another important service of Public Inquiries is to assist physicians in identifying clinical trials for their patients and to refer physicians who desire a consult to appropriate NCI clinicians. Public Inquiries staff directs physician calls to the appropriate NCI clinical trial or performs PDQ searches to locate trials at other institutions.

Assisting Visitors and Counseling Patients

As the NCI's information office, Public Inquiries has many visitors each year. Each day staff received approximately five visitors such as foreign scientists, other Government officials, and visiting physicians seeking information on NCI's programs and services. In addition, approximately 15 cancer patients or family members came to Public Inquiries each week seeking advice and the most current information about cancer treatment. Counseling sessions with patients and family routinely take an hour or more to handle.

Researching and Writing Publications

Public Inquiries is responsible for several important components of NCI's information and education materials for cancer patients and the public:

- "Research Reports," a series of pamphlets describing the latest information on cancer diagnosis and treatment for major cancer sites. In FY 1989, Research Reports were prepared on the following subjects: bladder, kidney lung, ovarian, and uterine cancers, soft tissue sarcomas, and bone marrow transplants.
- "What You Need To Know About Cancer," a series of booklets that provides basic information on the causes, symptoms, diagnosis, and treatment for 26 types of cancer. In FY 1989, booklets were prepared on the following sites: lung, breast, skin, melanoma, testicular, oral, bladder, pancreas, non-Hodgkin's lymphoma, and Hodgkin's disease.
- "Cancer Facts," a compilation of nearly 100 fact sheets covering such areas of interest as causes, risks, diet, biological therapy, detection, new treatments, services, and NCI programs. Fourteen new fact sheets were created in FY 1989.
- Response Book, a collection of approximately 90 standard, approved statements on topics such as unproven methods, rehabilitation, new treatments, cancer causes, and other policies of the NCI that is used by the CIS in responding to inquiries. These statements are reviewed annually and updated as needed.
- Other publications produced by Public Inquiries in FY 1989 included the booklet "Asbestos Exposure: What It Means, What To Do," "Questions and Answers About Treatment for Node-Negative Breast Cancer Patients," and the article "Nurses and PDQ: What's in It for You" published in Oncology Nursing Forum.

Providing Technical Assistance

Public Inquiries acts as a technical resource for the Cancer Information Service, other OCC programs, and other NCI staff. In addition, Public Inquiries consults with professional groups concerning the design and operation of public response programs. Examples of technical assistance provided by Public Inquiries in FY 1989 follows.

- Local CIS offices looked to Public Inquiries to answer difficult cancer questions, to advise on NCI policy, and to assist them in performing PDQ searches. Public Inquiries also reviewed materials produced by local offices to ensure technical accuracy and compliance with NCI policies.
- Public Inquiries assisted the NCI's Patient Education Program by providing technical review of its patient materials for scientific accuracy, appropriateness, reading level, and sensitivity. Staff helped to revise "Questions and Answers About Breast Lumps," "What You Should Know About Breast Exams," "Eating Hints," "When Cancer Recurs: Meeting the Challenge Again," "Breast Biopsy: What You Should Know," "Help Yourself: Tips for Teens with Cancer," "When Someone in Your Family Has Cancer," and "Mastectomy: A Treatment for Breast Cancer."
- A major initiative of the NCI in FY 1989 was the clinical trials accrual project to increase patient participation in treatment studies. Public Inquiries provided extensive technical support to the Information Projects Branch in developing, reviewing, and pilot testing an 8-hour training program for Cancer Information Service telephone counselors to instruct in how to discuss investigational research studies with patients.
- Public Inquiries provided support to other NCI offices to help them respond to large numbers of inquiries generated by write-in campaigns initiated by activist organizations. This activity included drafting model language appropriate for the general public, obtaining clearance, and in some cases preparing letters of response. In addition, Public Inquiries coordinated NCI's response to such write-in campaigns.
- Public Inquiries assisted the Division of Cancer Treatment in preparing responses to inquiries about topics such as prostate cancer and unproven cancer treatments. Public Inquiries continued to answer letters from patients and physicians to Dr. Steven Rosenberg concerning his adoptive immunotherapy treatments because of major public interest in this area of research.
- Public Inquiries assisted the cancer nursing staff at the Clinical Center in preparing a patient education booklet on treatment with interleukin-2, a form of biological therapy.
- Public Inquiries served as liaison between NCI and 14 foreign countries as they develop cancer information services and public inquiries programs modeled after NCI's. In FY 1989 staff provided technical expertise in developing public response programs to representatives of Japan, France, Germany, Austria, Spain, and Israel.
- In FY 1989, Public Inquiries consulted with representatives of the following organizations to discuss programs and services: National Eye Institute; National Heart, Lung, and Blood Institute; American Heart Association; Office of Technology Assessment review of unproven

methods of cancer treatment; Y-Me Breast Cancer Support Organization; Ohio State Comprehensive Cancer Center; Memorial Cancer Institute; Look Good ... Feel Better support program; and representatives of the Wright Linear Pump (for lymphedema patients).

- Public Inquiries staff participated in five major contract reviews as members of Source Evaluation Groups for the Information Projects Branch, OCC; National Institute on Aging; National Institute of Allergy and Infectious Diseases; Cancer Information Service; and NCI Office of the Director.
- Public Inquiries staff was called upon frequently to present an overview of its activities to other NCI programs. In FY 1989 presentations were made to the Clinical Center's cancer nursing staff, NCI Personnel Office, International Cancer Information Center staff, Cancer Communication Fellows, Comprehensive Cancer Center patient educators, and Clinical Cancer Center patient educators.
- Public Inquiries staff spoke at professional education seminars in San Francisco; Richmond, Virginia; Franklin, Tennessee; Philadelphia; Charleston, South Carolina; and Daytona Beach, Florida. Staff also represented NCI at professional meetings of the Oncology Nursing Society; American Society of Clinical Oncology; and at Government Employees Appreciation Day.

Managing the Public Inquiries Technical Support Project

Since 1974, Public Inquiries has had the assistance of a support contractor for answering letters, operating the national Cancer Information Service, and storing and distributing NCI publications. In FY 1989, this contract was staffed by 60 employees and its budget was \$2.4 million. Public Inquiries was responsible for all management and oversight of this large contract. This required frequent daily contact with contractor staff, monthly formal staff meetings, and continual monitoring of quality and performance. Fiscal Year 1989 saw an increased demand for services by the contractor; in particular, three new projects were added that demanded significant activity by Public Inquiries staff in development, startup, and management. An overview of contract activities follows.

Public Inquiries is responsible for answering letters written directly to the NCI. In FY 1989 there were 96,000 letters that received a "non-custom" reply; that is, it was possible to answer the letter by sending a publication that contained information that the writer requested. However, 3,100 letters required a custom response addressing each point of the inquiry at a level that the inquirer could understand. Letters from cancer patients were answered within 3 days of receipt of the incoming request. Most custom letters took from 30 minutes to an hour to research and write. All letters prepared by the contractor were reviewed by Public Inquiries before they were mailed.

Letters that required special handling are known as "controlled" correspondence. This type included letters originally addressed to the President, Members of Congress, the Secretary of HHS, or other Government officials. In FY 1989, 240 controlled letters were prepared.

The national Cancer Information Service, operated by the support contractor, covered about 30 percent of the U.S. population; local CIS offices handled the remaining calls. After regular working hours, the national CIS handled all calls until 10 p.m. The national CIS was also open on Saturdays from 10 a.m. until 6 p.m. In FY 1989 the national CIS answered 49,000 information calls and 120,000 calls to the Publications Ordering Service. Statistics on call volume have shown a steady increase in length of call, reflecting the complexity of the calls and the public's increased sophistication about cancer. To meet this need, Public Inquiries directed the contractor to increase its recruitment efforts to add additional telephone information specialists. In addition, a new computerized call management system was installed to improve telephone service.

NCI's special initiative to increase patient accrual to clinical trials has had a significant impact on the operations of the national CIS. All telephone information specialists received training on counseling callers about clinical trials, informing callers about the availability of trials, and how to go about participating in treatment studies. Information specialists used NCI's PDQ database to discuss state-of-the-art treatments and to identify clinical trials for callers. In FY 1989, 5,900 PDQ state-of-the-art statements were sent to callers and 3,600 customized database searches were conducted to identify potential clinical trials. This figure represents a 100 percent increase in usage from FY 1988. Each PDQ clinical trial database search took about an hour to perform. The contractor currently had three full-time staff members performing searches; with expected continuing increases in volume, additional staff will be required.

In FY 1989, 20 million NCI publications were distributed by the contractor to individuals, cancer centers, hospitals, physicians' offices, industry, and other groups around the country. This figure represents a 12 percent increase over FY 1988. In addition to these routine orders, nearly 25 special promotional mailings were assembled and mailed to targetted intermediary groups such as the National Association of Elementary School Principals, food and health editors, etc. Based on discussions with the U.S. Postal Service, new equipment and procedures were developed for securing boxes of publications for mailing. In addition, Public Inquiries worked to develop a more cost-effective mailing system for bulk publication orders.

Special projects undertaken by the support contractor in FY 1989 included the following.

- Training staff from local CIS offices (Ohio and Kansas);
- Preparing two briefing reports for HHS Secretary Louis Sullivan;
- Maintaining the NCI Gift Fund; and
- Distributing publications for the International Cancer Information Center and the Cancer Statistics Branch.

NEW INITIATIVES

In FY 1989 Public Inquiries was given added responsibility in four areas that required a significant commitment of staff as well as contractor resources. These areas are discussed below.

Resource to the Cancer Information Service

With the reorganization in FY 1989 that placed administrative responsibility for the local Cancer Information Service (CIS) in the Office of Cancer Communications, Public Inquiries assumed an expanded role in providing support to the CIS program. This support included:

- Providing technical assistance to the CIS Project Officer;
- Participating on CIS oversight committees; and
- Functioning as the principal technical information resource for local CIS offices.

Since Public Inquiries is responsible for running the national office of the CIS, it was in a unique position to provide a nationwide perspective to the regional CIS network. Toward this end, Public Inquiries assisted the CIS Project Officer in conceptualizing and developing the requirements for the recompetition of the CIS program. This effort entailed assessing the current program, developing standards and procedures to be followed in the future, and establishing measurable goals and objectives with which to assess progress. In FY 1989, Public Inquiries helped write the statement of work for the recompetition and two staff members participated in the review of proposals submitted by offerors. Other significant areas in which Public Inquiries assisted the CIS Project Officer included making test calls to the regional CIS offices to monitor quality of responses to telephone inquiries; evaluating the ability of regional CIS offices to provide information from NCI's PDQ database on clinical trials; and reviewing materials developed by regional CIS offices for technical accuracy and adherence to NCI policies and guidelines.

Staff from Public Inquiries also participated on CIS task forces charged with the operation, coordination, and management of the CIS network. Staff from Public Inquiries were members of the following CIS task forces: Policies and Procedures, Volunteer and Staff Training, Patient Education, and Evaluation. In addition, staff participated in several ad hoc working groups that were convened to address major issues such as clinical trial patient recruitment and use of the PDQ database.

The third area of support to the CIS was technical assistance to the local CIS offices. This assistance included:

- Answering technical questions received from local CIS offices;
- Alerting regional offices of upcoming scientific conferences, events, or media stories that may generate calls to the CIS;
- Providing the regional offices with the information and materials that will be needed to respond to inquiries from the public and cancer patients; and

- Routinely reviewing and updating NCI materials used by regional CIS offices to answer inquiries to ensure that the most up-to-date information is being given to the public.

In FY 1989, Public Inquiries was designated as the principal technical information resource for the 26 local CIS offices. The local offices use Public Inquires staff to help them respond to difficult or unusual questions concerning cancer prevention, screening, diagnosis, and treatment that the local office has been unable to answer using its own resources. The local offices are directed to rely on Public Inquiries to ensure consistency of responses; to avoid duplication of effort by several offices at NCI having to respond to requests for information; and to allow the CIS Project Officer to focus on the operation of the CIS network rather than having to spend time answering questions on cancer content.

In order to provide the information needed to answer these inquiries, Public Inquiries staff drew on many resources, including consultations with NCI scientific staff, extensive searching of the medical literature, and contacting non-Government organizations and industry. In unusually sensitive or controversial areas, staff formulated NCI's position statement and secured the appropriate clearances before disseminating the information. In FY 1989, Public Inquiries responded to over 200 such inquiries from the regional offices, covering topics such as clinical trials using aspirin to treat cancer; hair spray, power lines, and Alar as causes of cancer; and cancer treatments using unproven methods.

Public Inquiries developed procedures to track these requests and maintained extensive files to document requests for information and the response that was provided. Through this system, Public Inquiries was able to identify new topics of interest to the public that required the development of NCI position statements or fact sheets.

Support to the International Cancer Information Center

The International Cancer Information Center (ICIC) is responsible for NCI's scientific information services: technical journals, specialized publications, and the PDQ database. In FY 1989, ICIC approached Public Inquiries about several projects:

- Distributing ICIC publications;
- Revising the PDQ Patient Information File; and
- Evaluating PDQ on CD-ROM.

ICIC's Marketing Division asked Public Inquiries to assist them with maintenance and distribution of its inventory of publications. Public Inquiries worked with its support contractor to develop a computerized inventory and ordering system for ICIC products. All materials were relocated to Public Inquiries' contractor's warehouse. Distribution activities began in February 1989 and included promotional mailings, distributing educational literature to health professionals, and shipping materials to scientific

exhibits at professional meetings. Public Inquiries worked to establish procedures for requesting services and to expand the reporting of monthly activities to aid ICIC in program planning efforts.

In October 1987, an NCI Internal Working Group was established to explore ways in which PDQ (NCI's database of cancer treatment information) could be enhanced to make it a more comprehensive resource for patients and their families. Public Inquiries staff were selected to participate on this project. One component of the PDQ database is the Patient Information File (PIF), which contains valuable information on staging, prognosis, and treatment for nearly 80 types of cancer written for patients. For the next 18 months, the Internal Working Group conducted an evaluation to determine the usefulness of the statements to patients; based on this evaluation, the group proceeded to develop procedures for revising the statements so that they would not be too technical for patients. Because Public Inquiries was responsible for writing many of NCI's patient materials, in FY 1989, its two staff members on the Internal Working Group developed prototype PIF statements on breast cancer and nonsmall cell lung cancer. The statements were reviewed by the PDQ editorial board for technical content and an External PIF Advisory Board composed of patient education advocates from across the country for sensitivity and appropriateness. The prototype statements were approved by both advisory boards and have been entered into the database. ICIC contracted with free-lance writers to develop the other statements based on these models. Public Inquiries staff will continue to participate in this project by helping to develop guidelines for writers to follow, reviewing resources and suggesting materials to be referenced for further reading, and reviewing new statements as they are prepared.

ICIC's computer staff explored the feasibility of providing the PDQ database to users on compact disk. This new technology would allow users immediate access to PDQ information without incurring online access charges. Since the CIS network is the primary user of PDQ, ICIC needed to determine if CD-ROM technology will meet the needs of the CIS. Public Inquiries, which logs over 200 hours of online usage each month, was asked by ICIC to do a feasibility study of PDQ on CD-ROM to assess ease of access to information, ability to perform customized searches for callers, and equipment needs of regional offices to use this new technology.

In addition to these activities, Public Inquiries staffed PDQ exhibits at professional meetings of oncology nurses and physicians, provided technical assistance to CIS regional offices in using the database, and made suggestions to ICIC programming staff concerning searching enhancements. Public Inquiries staff published an article on PDQ in Oncology Nursing Forum entitled "Nurses and PDQ: What's in It for You?"

Operation and Maintenance of the NCI Gift Fund

In FY 1989 Public Inquiries was asked by NCI's Financial Management Branch to assume responsibility for tracking financial donations made to the Institute and preparing customized letters of acknowledgement to donors.

Public Inquiries directed its support contractor to perform a needs assessment and develop a computerized database to monitor Gift Fund activities. Public

Inquiries established procedures to be followed to efficiently handle donations; rewrote acknowledgement letters and established model language; and suggested streamlined procedures. To aid recordkeeping, donations are categorized by number of donations, amount donated, and type of donation (gift, memorial, special, etc.). Detailed reports of monthly activity are prepared. In FY 1989 Gift Fund was projected to receive nearly 2,000 individual donations (estimated to total \$600,000) and to generate nearly 2,500 custom letters of acknowledgement.

Maintenance of the SEER Inventory

In FY 1989, the Cancer Statistics Branch, DCPC, requested that Public Inquiries' support contract assume the maintenance of the SEER Program's publications and distribute its materials upon request from cancer researchers and tumor registrars across the country. Staff prepared publication request forms, developed computerized inventory control procedures, and established procedures to track distribution of materials.

STAFFING

Staff of the Public Inquiries Office included Carol Case, chief; science writers Judy Patt and Chris Thomsen; public affairs specialist Judy Collins (through May--her replacement will start in October); secretary Sheila Stempler; clerk/typist Nina Greene; and summer intern Vicki Nordstrom.

Cancer Information Service (CIS) Office of Cancer Communications, NCI

The Cancer Information Service is a nationwide network of 26 regional offices which provide accurate, up-to-date information on cancer to patients and their families, health professionals, and the general public. Each day 1,500 inquiries are answered by the 26 regional CIS offices and a national office based in Maryland. Over 400,000 inquiries a year flow into the CIS--nearly 3 million since it opened in 1976.

The Cancer Information Service Section manages the 26 community based CIS offices operating across the country. The Public Inquiries Section oversees the national CIS office. The CIS is a new addition to the Reports and Inquiries Branch of the Office of Cancer Communications, and brings four new program staff, and approximately 300 community based staff members to the Branch. Although housed in the Division of Cancer Prevention and Control since its inception in 1976, the CIS program was transferred to the OCC in FY 1989. The move was based on the close working relationship of the CIS with all of the OCC programs.

The staff of the CIS Section have responsibility for the daily oversight and management of the 26 local CIS offices of the United States population and operate as field offices supporting all OCC program efforts.

Each of the 26 regional offices has three primary activities they are responsible for implementing in their community. These include:

1. operation of a toll-free phone service known as the Cancer Information Service,
2. development of local resource directories of cancer related services and programs in their service area, and
3. development and implementation of cancer information and education programs for their service area.

The toll-free phone service is the largest and most visible component of the CIS program. The local offices serve 33 States representing 85% of the U.S. population. Each office is open from 9:00-4:30 local time to respond to inquiries. The national office handles the remaining States and provides back-up service until 10:00 p.m. for the local offices.

The local CIS staff responded to over 250,000 calls in 1988 through the 1-800-4-CANCER WATS lines. Calls are received from patients and their families (44%), health professionals (6%), and the general public (32%). The public's demand on the CIS system is increasing, not only in terms of call volume, but in terms of call complexity and length. A recent study by AT&T revealed that an additional 13 WATS lines are needed to keep up with the demand on the local offices. The system remains unique in providing a broad scope of continually updated cancer information by an intensively trained staff using nationally standardized resources.

The subjects of inquiry vary widely, ranging from questions on treatments for specific types of cancers to questions on early detection and cancer prevention. While all calls to the CIS are important, calls from cancer patients and their families are most critical as the information provided can affect their lives, and in a number of cases, make a life or death difference. These callers most frequently request information on the treatment and prognosis for specific types of cancer. The CIS staff utilizes the National Cancer Institute's computerized database PDQ (Physician Data Query) to provide callers with up-to-date information on the treatment options for their specific stage and type of cancer. While patients tend to be more concerned about their current treatment and side effects, friends and family members request information on second opinions and the availability of clinical trials. In addition, family members frequently require more support and counseling from CIS staff. In 1988 the CIS handled over 20,000 specific requests for help in coping with the illness of a loved one. However, the CIS is sensitive to the psychosocial nature of all calls from patients and family members and often address these issues during calls on other subjects. As more patients live longer, the CIS is called upon more frequently to assist in helping the patient rehabilitate and return or continue in the workforce. Increasingly, the CIS receives calls on insurance for long-term survivors, employment needs, and other rehabilitation services.

Questions from the general public often concern specific cancer risk factors. In 1988 over 30,000 people received smoking cessation counseling from the CIS. Over 40,000 individuals wanted more information on the relationship between diet and nutrition and risk of cancer. The public is very sensitive to media coverage of cancer risk factors and the CIS must be prepared to respond on a moment's notice to late breaking stories. In 1988, calls of this nature included those concerned with the risk of the pesticide ALAR on apples and the risk of living near power lines. The CIS relies on the staffs of both the Public Inquiries Section and the Press Section to research answers to these questions so that they can respond quickly and accurately to these inquiries.

In addition to responding to public inquiries, the CIS is easily mobilized to assist NCI and other organizations to bring important cancer messages to the American public. In FY 1989 the CIS played a significant role in the NCI initiative to increase accruals to clinical trials. The CIS program served as the primary point of contact for the public interested in learning more about clinical trials. To prepare the CIS staff to respond to these inquiries, a comprehensive training program was developed. The program prepared the staff to assist patients in making informed treatment decisions concerning participation in clinical trials. The public response to articles in the local and national news media on clinical trials has been overwhelming. A single article in USA Today generated over 400 calls in one day. In response to this initiative, the CIS program now accounts for over 50% of PDQ use to refer patients to clinical trials, far exceeding the expectations that the system would be used almost exclusively by physicians. In the last year the CIS made over 50,000 referrals to NCI cancer centers and clinical trials for the latest available treatments.

Promotion of the CIS by reporters in the electronic and print media has been significant in the past year. Home Box Office (HBO), Hour Magazine, Sunday Today, and the Home Show all featured the CIS in special segments on cancer. In addition, the number was promoted by USA Today, The Washington Post, and the New York Times. Magazine coverage has included McCalls, Ladies Home Journal, Redbook, Parents Magazine, and Changing Times. Reader's Digest will feature the number in both the August and September 1989 issues.

The CIS offices encourage and undertake joint efforts with local hospitals, State health departments, businesses, schools, and community groups, providing advice and materials to develop health promotional campaigns in such areas as smoking cessation, diet and nutrition, cancer screening, and support programs. Building bridges with intermediaries allows the NCI programs to reach increasing numbers of people. Local CIS offices tailor NCI information for their specific audience. Efforts to reach minority audiences have included 198 community presentations reaching 16,000 people, and contact with 426 churches reaching 14,000 individuals. Other special programs have been directed at the elderly community including 62 presentations reaching over 78,000 individuals. In a single coordinated program one office reached 85,000 school educators with a program on smokeless tobacco. Other CIS offices have assisted the American Cancer Society and other organizations in mounting large scale education and screening programs on breast cancer. Recent programs have reached 65,000 women with information on mammography. BSE trainings have reached over 16,000 women. The CIS is now preparing a coordinated nationwide effort to promote Breast Cancer Awareness Month, in support of the NCI's new mammography initiative. This will include a nationwide publicity and promotion campaign including distribution of press releases and radio public service announcements to support the national initiative.

CIS also serves as a resource and database for stimulating the development and implementation of research on cancer communications. For example, in cooperation with NCI grantees funded through a separate program entitled "Cancer Communications System Research," the CIS is involved with programs to narrow the cancer knowledge gap among blacks; to target blue collar workers who smoke, as well as smoking mothers of young children; and to reinforce the importance of breast cancer screening.

The current contracts supporting the local CIS offices expire in 1989. The new request for proposals was released in February and generated significant response. In preparation for the new contracts, the staff of the CIS Section has undertaken several major efforts to improve the efficiency and management of the CIS program to ensure the highest level of quality. Specifically those projects include the development of the following:

- o a national policy and procedure manual to standardize CIS operations,
- o a new computer-based test call system to monitor the quality of responses provided to the public,
- o revision of the national training manual for CIS staff, and

- o a comprehensive five-year evaluation effort to assess the impact of the CIS on cancer morbidity and mortality.

The CIS Section staff include Kate Duffy, Project Officer; Debra Steverson, Assistant Project Officer; Cynthia Hallett, Program Analyst; and Linda Bridges, Information Services Assistant.

List of CIS Coordinators

ALABAMA

Jane M. Hauth
CIS Coordinator
Comprehensive Cancer Center
University of Alabama at Birmingham
1918 University Boulevard, Room 108
University Station
Birmingham, AL 35294
(205) 934-6614

CALIFORNIA - UCLA

Susan Karlins
CIS Coordinator/Associate Director
Cancer Information Service of California
1100 Glendon Avenue, Suite 711
Los Angeles, CA 90024
(213) 206-0278

CALIFORNIA - USC

Linda Richie-Walker, Ma.Ed.
CIS Coordinator
Cancer Information Service
University of Southern California
1721 Griffin Avenue, Suite 205
Los Angeles, CA 90031
(213) 224-7371

COLORADO

Marsha Woodworth
CIS Coordinator
Cancer Information Service
Penrose Cancer Hospital
P.O. Box 7021
Colorado Springs, CO 80933
(719) 630-5271

CONNECTICUT

Marion Morra
CIS Coordinator
Yale Comprehensive Cancer Center
Communications Office
333 Cedar Street - LEPH 139
P.O. Box 3333
New Haven, CT 06510
(203) 785-6347

FLORIDA

Jo Beth Speyer
CIS Coordinator
Director of Communications
Sylvester Comprehensive Cancer Center
1475 NW 12th Avenue, Room 4035
Miami, FL 33136
(305) 548-4821

HAWAII

Marcia D. Deaton, Ph.D.
CIS Coordinator
Cancer Research Center of Hawaii
1236 Lauhala Street, Room 502
Honolulu, HI 96813
(808) 548-8775

ILLINOIS

Rosemary Janiszewski
CIS Coordinator
Cancer Information Service
Illinois Cancer Council
36 Wabash, Suite 700
Chicago, IL 60603
(312) 346-9813, Ext. 328

KANSAS

Paula J. Lang
CIS Coordinator
Cancer Information Service
University of Kansas Medical Center
203 Student Center
39th and Rainbow Boulevard
Kansas City, KS 66103
(913) 588-4750

KENTUCKY

W. Douglas Wagner
CIS Coordinator
Kentucky Cancer Information Service
Markey Cancer Center
800 Rose Street
Lexington, KY 40536
(606) 233-6560

MARYLAND

Donna S. Cox
CIS Coordinator
Johns Hopkins Cancer Information Service
550 North Broadway, Room 307
Baltimore, MD 21205
(301) 955-3636

MASSACHUSETTS

Gail Gramarossa
CIS Coordinator
Cancer Information Service
Dana-Farber Cancer Institute
44 Binney Street
Boston, MA 02115
(617) 732-3154

MICHIGAN

Jane Hoey
CIS Coordinator
Comprehensive Cancer Center
of Metropolitan Detroit
110 East Warren Avenue
Detroit, MI 48201
(313) 833-0710, Ext. 247

MINNESOTA, DIV. ACS

Marge Carter
CIS Coordinator
Cancer Information Service
American Cancer Society
3316 West 66th Street
Minneapolis, MN 55435
(612) 925-6336

MISSOURI

Bernadette Zucker
CIS Coordinator
Cancer Information Service
Boone Hospital Center
1600 East Broadway
Columbia, MO 65201
(314) 875-3506

NEW YORK - MEMORIAL SLOAN-KETTERING

Rosemarie Slevin, R.N., M.Ed.
CIS Coordinator and OCC Director
Memorial Sloan-Kettering Cancer Center
Office of Cancer Communications
1275 York Avenue
New York, NY 10021
(212) 639-3537

NEW YORK - ROSWELL PARK

Samuel Markello
Program Coordinator
Cancer Information Service
Roswell Park Memorial Institute
Elm and Carlton Streets
Buffalo, NY 14263
(716) 845-3115

NORTH CAROLINA

Carlan T. Graves
CIS Coordinator
Duke Cancer Information Service
Duke Comprehensive Cancer Center
Erwin Square, Suite 10
2020 West Main Street
Durham, NC 27705
(919) 286-5515

OHIO

Joanne Beebe Hichik
CIS Coordinator
Ohio Cancer Information Service
168 Upham Hall
473 West 12th Avenue
Columbus, OH 43210
(614) 293-4600

PENNSYLVANIA

Sharon Davis
CIS Coordinator
Associate Program Director
Fox Chase Cancer Center
430A Rhawn Street
Philadelphia, PA 19111
(215) 728-3110

TENNESSEE

Kimberly Mashburn
CIS Coordinator/Program Director
Cancer Information Service of Tennessee
The Thompson Cancer Survival Center
1915 White Avenue, Suite 107
Knoxville, TN 37916
(615) 541-1318

TEXAS

Jo Ann Ward
CIS Coordinator/Director
Cancer Information Service
M.D. Anderson Cancer Center
1515 Holcombe Boulevard, #229
Houston, TX 77030
(713) 792-3363

UTAH

Kathryn Manning
CIS Coordinator
Cancer Information Service of Utah
University of Utah Health Sciences Center
AB15
50 North Medical Drive
Salt Lake City, UT 84132
(801) 581-5052

WASHINGTON

Jean Wooldridge
CIS Coordinator/Program Manager
Fred Hutchinson Cancer Research Center
Mailstop B-601-L
1124 Columbia Street
Seattle, WA 98104
(206) 467-4675

WEST VIRGINIA

Pamela Brown
CIS Coordinator and CCS Director
Mary Babb Randolph Cancer Center
West Virginia University
510 Medical Center Drive
Morgantown, WV 26506
(304) 293-2370

WISCONSIN

Eric Doran
CIS Coordinator
Wisconsin Cancer Information Service
University of Wisconsin
Clinical Cancer Center
1300 University Avenue, 7C
Madison, WI 53706
(608) 262-0046

"NATIONAL" CIS

Dianne Zeitler
CIS Coordinator/Program Director
Cancer Information Service
Biospherics, Inc.
12051 Indian Creek Court
Beltsville, MD 20705
(301) 369-3900

NATIONAL CANCER INSTITUTE

Kate Duffy (301) 496-8664
Project Officer
Cancer Information Service, NCI

INTERNATIONAL CANCER INFORMATION CENTER

OFFICE OF THE DIRECTOR

The International Cancer Information Center (ICIC) serves as the NCI focal point for the collection and dissemination of scientific data on all research related to cancer biology, etiology, prevention, and treatment. This includes collecting, cataloging, storing, and disseminating the results of clinical and preclinical cancer research to any and all persons involved in cancer research in any country. Using available technology, ICIC actively promotes the exchange of information between cancer researchers and develops more effective ways of disseminating scientific information among cancer researchers and practicing physicians throughout the world. ICIC consists of the Office of the Director, the International Cancer Research Databank Branch (ICRDB), the Computer Communications Branch (CCB), the Publications Branch, and a marketing office. Specific responsibilities of the staff of the Office of the Director, ICIC, are to plan, direct, coordinate, promote, and evaluate the activities and operations of NCI's scientific journals, monographs, online databases, database-derived special publications. These products and services are targeted toward meeting the requirements by basic scientists and clinical investigators for up-to-date information about current advances in cancer research, and constitute the NCI's centralized resource for scientific information.

INTERNATIONAL CANCER RESEARCH DATA BANK (ICRDB) BRANCH

Established by the National Cancer Act of 1971, the ICRDB Branch of the International Cancer Information Center has developed a comprehensive range of technical information services and products that disseminate cancer research information to scientists and practicing physicians around the world. The major information resources are:

- 1) The online computer databases of the CANCERLINE system, and the PDQ database, which enable scientists to retrieve cancer information at more than 25,000 locations within the United States and 13 foreign countries.
- 2) Three series of publications (CANCERGRAMs, ONCOLOGY OVERVIEWS and RECENT REVIEWS), containing abstracts of published cancer research results in special formats designed for easy use and quick reference.
- 3) Other specialized information collection, analysis, and dissemination activities.

DATABASES

The cancer databases comprising the CANCERLINE system include: CANCERLIT (abstracts of published cancer literature), and CLINPROT (detailed summaries of investigational clinical protocols). The third database is PDQ, the Physician Data Query system, which provides user-friendly access to state-of-the-art overviews of treatment and supportive care of all major tumor types, information on early detection, standard therapy protocols and ongoing experimental cancer clinical research programs, and physicians and organizations involved in cancer treatment. All databases are updated on a monthly basis.

CANCERLIT is a comprehensive archival file of more than 650,000 bibliographic

CANCERLIT is a comprehensive archival file of more than 650,000 bibliographic records with abstracts describing cancer research results published since 1963 in biomedical journals, proceedings of scientific meetings, books, technical reports, and other documents. During FY 89, CANCERLIT grew at an annual rate of more than 60,000 abstracts. Since 1980, all entries in CANCERLIT have been indexed with the Medical Subject Heading (MeSH) vocabulary of the NLM. In December the basic (default) searching condition for CANCERLIT was changed to make it searchable in almost identical fashion to the very popular MEDLINE database produced by the National Library of Medicine. This was done to encourage searchers to try the less familiar but more comprehensive CANCERLIT database for cancer queries. The CANCERGRAM Identifier (CG) field makes it possible to identify CANCERLIT records that have been included in one or more prior-year CANCERGRAMS. The CANCERLIT database is updated monthly to provide a comprehensive, up-to-date resource of published cancer research results.

CLINPROT provides information on therapeutic approaches which are undergoing testing for the treatment of cancer patients. It includes both foreign and domestic research protocols and archival listings of protocols which have closed, as well as those which are currently underway. Data contained in CLINPROT include detailed summaries of some 7,400 investigational cancer therapy protocols, including about 1,500 active protocols and 6,000 completed protocols. CLINPROT can be searched using the Elhill retrieval language, which permits rapid identification of protocols based on diseases treated and types of therapy used.

PDQ (Physician Data Query). A major responsibility of the ICRDB is the production of the PDQ database. PDQ consists of four linked component files (Cancer Information, Protocols, Physician Directory, Organization Directory):

PDQ--The Cancer Information File

The Cancer Information File contains prognostic and treatment information on the major types of cancer in children and adults and includes information on AIDS and AIDS-related malignancies. For each subject, a general summary (patient education) and a detailed summary (state-of-the-art statement) are provided, describing current prognosis, stage definitions and explanations, cellular classifications, treatment options that include a range of comparable standard therapies and information on the investigational approaches under evaluation in clinical research trials as well as key citations to the literature.

The PDQ Editorial Board, consisting of 27 cancer specialists in the areas of medical, radiation, surgical, and pediatric oncology, and one oncology nurse, reviews the state-of-the-art statements each month. The current cancer literature is screened on a monthly basis to select articles for review by Board members. The Board selects articles for citation in the PDQ database and revises the statements where appropriate.

The eight pediatric oncologists on the Board meet separately to revise the statements on pediatric cancer. The revised statements are presented to the main Board for its approval. A special panel is also drafting statements on supportive care, covering measures for managing complications or toxic effects due to the progression of cancer or to cancer therapies.

An Extramural Board consisting of 75 oncology specialists is consulted formally twice yearly, and on individual issues throughout the year, supplementing the expertise of the main Board in highly specialized areas.

Major enhancements to the Cancer Information File during FY89 included the addition of supportive therapy statements for anticipatory nausea and vomiting; constipation, impaction and bowel obstruction; fatigue; radiation enteritis; lymphadema and oral complications of cancer therapy. New state-of-the-art statements for metastatic cancer, uterine sarcoma, and ovarian low malignant potential tumor were also added. Major rewrites of the childhood brain tumor, childhood acute lymphocytic leukemia, childhood soft tissue sarcoma, and skin cancer were completed.

Following extensive discussion with intramural staff and an External Advisory Board of outside consultants in patient education and communication, a new format for Patient Information Statements was established and the statements for breast cancer and nonsmall cell lung cancer were rewritten in this new format and placed online. The ICIC has contracted with six writers to complete the remaining 75 statements. Work is in progress which will be completed during FY90.

PDQ--Protocol File

The Protocol File contains over 1400 summaries of active protocols supported by the National Cancer Institute as well as protocols submitted voluntarily by investigators in the US and Canada. During FY89, work was completed that allowed users to retrieve protocols by institution. In addition, new modality submenus allow users to retrieve protocols by additional modality terms, such as phototherapy or specific kinds of radiation therapy. In addition to the investigational protocol summaries, 34 standard therapy protocols were online as of July 1989. These protocols provide detailed guidance on administering regimens of proven efficacy, with a detailed description of dose and schedule, clinical and laboratory monitoring, and dose modification information. The standard protocols are identified from the listing of standard therapies in the state-of-the-art statements, and are developed by ICIC contractors and staff from published literature and investigational protocols, and reviewed and revised by PDQ Editorial Board members. Currently there are standard protocols in the areas of breast cancer, Hodgkin's Disease, non-Hodgkin's lymphoma, multiple myeloma, gestational trophoblastic tumor, gastric carcinoma, pancreatic carcinoma, and testicular cancer.

Work continued in FY89 on exclusion and disease-specific criteria, designed to facilitate more precise protocol retrieval. Index codes were developed and a test version of PDQ utilizing the new codes was completed. Recoding of the PDQ protocol file employing new codes will be completed early in FY90 and PDQ users should be able to employ exclusion and disease-specific criteria in the second quarter of FY90.

PDQ--Physician Directory

The Physician Directory File consists of over 12,000 names, addresses, and telephone numbers of physicians who devote a major portion of their

clinical practice to the treatment of cancer patients. Board certification information was added to each physician record during FY88, as well as over twenty oncology-related specialties including surgical, diagnostic, and immunologic specialties identified by physicians themselves as areas of their clinical expertise.

PDQ--Organization Directory

The Organization Directory consists of over 1,500 health-care institutions that provide care for cancer patients. Additional information designating certain institutions as comprehensive and clinical cancer centers, funded by NCI, was added.

Database Access. As of June 1989, more than 18,000 domestic and 2,500 foreign centers have access to the cancer databases on the MEDLARS system. In the preceding year, about 7000 new centers were added. Over 3500 student codes are also in effect. There are currently 16 principal foreign MEDLARS centers which offer access to MEDLARS databases for foreign medical institutions and physicians. Fourteen (including the Pan American Health Organization) offer access to CANCERLIT, eight offer access to CLINPROT, and ten offer access to PDQ.

PDQ ACCESS, a telecommunications program for IBM microcomputers, was produced by the staff of the ICRDB and released in November 1987. This program automates connecting and downloading information from the PDQ database, NLM implementation. In addition, it captures expert search strategies from the Cancer Information File and automatically performs a CANCERLIT search, returning the PDQ user to the Cancer Information File menu. Thus PDQ ACCESS allows untrained searchers (such as physicians) to select and execute over 200 predefined searches of the CANCERLIT database as an adjunct to PDQ searching. A package consisting of the PDQ ACCESS magnetic diskette and user manual is available for purchase through the National Technical Information Service at a cost of \$19.95. As of June 1989, 265 copies had been sold.

CANCERLIT and PDQ have gained widespread exposure and are becoming more widely available through many commercial online and CD-ROM systems. This has generated an unprecedented surge in database licensing activities, directed by ICRDB staff. PDQ and CANCERLIT are now available on the BRS/Colleague and BRS/Search services through Maxwell Online, Inc., which recently purchased BRS Information Technologies. CANCERLIT is available on the DIALOG Medical Connection (DMC) Service, and DIALOG is considering adding PDQ. PDQ is also available on the MEDIS service of Mead Data Central. As of September 1989, NCI completed activities necessary to transfer all commercial license agreements for CANCERLIT from the NLM to NCI. This will afford NCI greater control and the revenues associated with these major licenses.

In June 1989, PDQ became available to the 35,000 subscribers to the American Medical Association's AMA/Net online service. An interactive NCI Information Service is under development, which would afford NCI the means of apprising AMA/Net users of important developments in cancer treatment research and new ICIC publications and services.

Gateway arrangements have further broadened the possibilities for access to NCI databases. In May, arrangements were completed with The Source to gateway into the NLM version of PDQ. In June 1989 The Source was acquired by CompuServe, and

thus it is likely that one of these access mechanisms will ultimately be discontinued. Through Maxwell/BRS, both CANCERLIT and PDQ are also available on Western Union's intelligent gateway, Infomaster/EasyNet. It is also possible to gateway into BRS via the IQuest service on CompuServe.

NLM's popular telecommunications package, GRATEFUL MED, was modified (Version 3.0) to permit easy access to CANCERLIT by untrained searchers, and access to PDQ was provided by Version 4.0 in late 1988.

Internationally, PDQ has been implemented on the Swiss TELMED system (MEDINET and PHARMANET components). A Dutch group, MediMatica, has implemented a videotex-based version of PDQ. An online service operated by the European Organization for Research and Treatment of Cancer (EORTC) makes PDQ available to its participating organizations. An implementation developed by DATA-STAR, a well-established international vendor with nodes throughout Europe and in the U.S., is ready for testing.

Several systems now exist under which PDQ and CANCERLIT can be made available to licensees prepackaged with retrieval software. Negotiations are in progress with many, mostly non-profit, organizations desiring to implement one of these systems at their location. These systems are available for either mini- or microcomputers: a version of PDQ based on the MUMPS programming language and developed by DCPC, NCI; and PDQ and CANCERLIT via SearchLITE, a proprietary retrieval system developed under an NCI SBIR contract by I.S.Grupe, an Illinois firm. Maxwell Online is working with NCI to develop means for offering PDQ and CANCERLIT under its "BRS Onsite" licensing program, which provides proprietary BRS retrieval software and databases to individual site licensees. Both Georgetown University and George Washington University have mounted the MUMPS/PDQ system under nonprofit license agreements. A MUMPS version has been developed for the FORUM communications network of the Veterans Administration Hospitals. The AMA/Net system in fact utilizes the SearchLITE software for PDQ, as does the EORTC search service in Europe.

PDQ and CANCERLIT are also offered in CD-ROM (compact disc read-only memory) versions by several commercial vendors. Cambridge Scientific Abstracts offers both Compact Cambridge CANCERLIT and Compact Cambridge PDQ, and a CD offering both databases together. SilverPlatter has merged three sources of cancer literature abstracts into a single comprehensive database called CANCER-CD. The file consists of recent years of CANCERLIT and two other medical databases, EMBASE and Yearbook of Cancer. SilverPlatter also plans to release PDQ as a separate CD-ROM product in 1990. J.B. Lippincott offers another CD-ROM product containing both PDQ and recent years of CANCERLIT. Called OncoDisc, this product also includes the full text of the most recent edition of Principles and Practice of Oncology. The most recent implementation is CANCERLIT Knowledge Finder, a CD-ROM product for the Macintosh computer family produced by Aries Systems Corporation. All these developments should serve to markedly increase the awareness and usage of PDQ and CANCERLIT throughout the world, particularly in regions where access to online systems is difficult.

Database Usage. Usage of PDQ and CANCERLIT on the NLM system has averaged 1039 (PDQ) and 489 (CANCERLIT) hours per month through June of FY89, compared with FY88 year-end averages of 747 (PDQ) and 466 (CANCERLIT) hours. The increase in

PDQ usage reflects major efforts by ICIC staff to promote awareness of the value of PDQ. BRS also reported increases in PDQ usage. Usage on other vendor systems (BRS, DIALOG, MEAD) adds substantially to the usage at the NLM.

About 40% of PDQ usage at NLM clearly represents searching for physicians by intermediaries (mainly) or by physicians themselves. Another 50% of PDQ usage at NLM represents searches provided through the NCI's Cancer Information Service, the Office of Cancer Communications, and its contractor. While most of these requestors are laypersons, a small portion are physicians and other health professionals, and in many if not most instances the patient-requested PDQ printouts also end up in the hands of physicians. Approximately 10% of PDQ usage represents training, testing and administrative use. Thus the actual percentage of NLM PDQ search output which is ultimately used by physicians is not known, but probably significantly exceeds 50%. Furthermore, it is likely that physicians are the ultimate users of most of the searches done on other vendor systems.

Service Desk. The ICIC Service Desk was organized to provide information and technical assistance to PDQ users and to people requesting information on other ICIC databases and publications. The Service Desk responded to about 2000 phone calls during the fiscal year. These calls totaled over 330 hours of staff time for an average of 10 minutes per call. More than two-thirds of these questions were about PDQ, and a large portion were inquiries from laypersons, which were referred on to NCI's Office of Cancer Communications or Cancer Information Service numbers.

Database Documentation. Major revisions of the PDQ User Manual were released in September 1988 and January 1989. These were developed within the ICRDB Branch, using desktop publishing technology. A new PDQuick Reference Guide (in pocket card format) was published and widely distributed in May 1989, to facilitate searching of PDQ by all types of users. A new search aid, the PDQ Terminology Listing, was developed and distributed for the first time in May 1989. It contains alphabetized and indexed lists of the terms used to index information in PDQ, and is designed to help searchers frame their queries in the most appropriate terms and ensure full and accurate retrieval. A new CLINPROT user manual was developed in early 1989. It was distributed with appendices listing drug combination subject captions and related short names and acronyms, drug and disease entity synonyms and protocol sources.

PDQ User Group. During FY88, a User Group was formed for all searchers of PDQ on any system, to improve communications between the producers of the database and the direct users of the system. An inaugural meeting was held in May 1988 and three newsletters announcing new PDQ developments were mailed out during the next year to group registrants, numbering over 350 as of June 1989. Over 200 medical librarians attended the 2nd annual meeting of the PDQ User Group in Boston on May 23, 1989, held in conjunction with the Annual Meeting of the Medical Library Association. This represented an increase of 100% over attendance at last year's User Group meeting. ICIC speakers reviewed recent enhancements to PDQ and future plans, and participants made many useful comments and suggestions.

Exhibits in the room highlighted new features in PDQ, free NCI materials (such

as posters, brochures, bibliography and published articles on PDQ) which may be used by librarians to introduce PDQ to their library patrons, and other scientific publications and databases of the NCI, including CD-ROM products. Representatives of the following companies were in attendance to answer questions about their products and services: NLM, BRS, Lippincott, SilverPlatter, and Cambridge Scientific Abstracts. A packet was given to all meeting attendees which contained specially prepared materials to enhance the effectiveness of intermediaries in searching PDQ. It included the latest versions of the PDQ Primary Reference Guide and the PDQuick Reference pocket card, lists of standard therapy protocols and CANCERLIT search strategies currently available from within PDQ, and the new PDQ Terminology Listing. Many additional request for the packet have been received and filled.

The User Group continues to be a most effective means of increasing the information providers' awareness of the value of PDQ, and their effectiveness in searching it, and of providing NCI database design staff with useful insights into the needs of PDQ users.

PUBLICATIONS OF THE ICRDB BRANCH

In addition to the databases, the ICRDB Branch of the International Cancer Information Center publishes three series of publications, described below:

CANCERGRAMS are a series of 66 monthly current awareness bulletins, each containing abstracts/citations referring to recently published articles and other documents describing cancer research results. Abstracts are selected and categorized by researchers active in the field covered by each CANCERGRAM topic. CANCERGRAMs are grouped under three major subject areas: Carcinogenesis, Cancer Biology, and Cancer Diagnosis and Therapy.

ONCOLOGY OVERVIEWS are retrospective bibliographies containing 200-500 abstracts/citations referring to papers published during the preceding few years on key cancer research topics of high current interest to scientists and clinicians.

RECENT REVIEWS are annual fully-indexed compilations of the abstracts of 250-400 major review articles cited in the monthly "Notice of Current Reviews" section of each CANCERGRAM series. A volume is published in each of the three broad CANCERGRAM subject areas as a supplement to the CANCERGRAMs.

A major transition was successfully implemented during FY87, to move all printing, distribution and sales operations for ICRDB publications from the National Technical Information Service (NTIS) to the Government Printing Office (GPO). At this juncture, free distribution of publications was discontinued and all publications became available only on a paid basis. GPO assumed from NTIS servicing of all existing CANCERGRAM subscriptions, and began accepting new subscriptions in January 1987. Serious delays have been encountered in the distribution of CANCERGRAMs. During the past year refinements to the processing procedure were identified and aggressively pursued by ICRDB staff in an effort to expedite the printing and distribution process. Several steps were consolidated between the NIH Printing and Reproduction Branch and the Project

Officer, almost immediately cutting routine delivery time by several weeks in the spring of 1989.

The GPO has not effectively marketed ICRDB publications, relying upon the mailing of a mass-produced "Priority Announcement" to a relatively small mailing list as the sole marketing vehicle for Oncology Overviews and RECENT REVIEWS. Moreover, the ICIC Marketing Office has lacked staff and resources to mount any specific targeted publications marketing program to date. GPO subscription servicing is also fraught with problems ranging from poorly informed order clerks to poorly conceived procedures for processing subscription renewals. ICRDB staff have tackled a variety of such problems as they arise, with varying degrees of success, due to the rigidity of the GPO system.

There are currently 8957 paid CANCERGRAM subscriptions. In addition, some 10,000 subscriptions have continued to be distributed separately through the federal depository library program, at no cost to the NCI.

In early 1989, ICRDB staff responded to the urgent need to develop targeted and effective marketing of publications by designing and rapidly implementing a special promotional effort centering on cancer meetings. Six special promotions of CANCERGRAMS, ONCOLOGY OVERVIEWS, and RECENT REVIEWS were made at selected meetings during the spring of 1989. For each meeting, a flyer was designed and produced in-house via desktop publishing software, which described and listed the specific publication titles matched to the interests of the meeting attendees, and contained GPO order forms. ICRDB staff contacted meeting organizers in advance, and arranged to provide bulk quantities of these flyers to be placed by conference staff in the registration packets or on display tables in the registration area. Follow-up calls were made to meeting coordinators and, in every case, they reported that all flyers were distributed and the response was favorable. Some coordinators have already requested that we provide the same type of flyer at future meetings. Unfortunately, GPO has been unable to provide specific information as to the success of these promotions as of June 1989. If this pilot effort proves successful, this approach will be repeated at fall cancer meetings, and additional targeted marketing efforts phased in as ICRDB staff resources permit.

SPECIAL ACTIVITIES SUPPORTED BY THE ICRDB BRANCH

CIDACS Under contract with the NCI, two Cancer Information Dissemination and Analysis Centers (CIDACS) function as information resources covering clinical and basic cancer research. Following recompetition during FY88, new contracts to operate the CIDAC for Diagnosis and Therapy and the CIDAC for Carcinogenesis and Cancer Biology were awarded to Information Ventures Inc., in Philadelphia. Each CIDAC is staffed by scientists and a network of cancer research consultants. These staff members provide the expertise required for the preparation of CANCERGRAMS and ONCOLOGY OVERVIEWS, as well as for other services such as CANCERLINE searching. The CIDACS possess the subject expertise to provide background information and state-of-the-art data for use by NCI advisory groups, and special events such as consensus conferences and other scientific meetings.

Literature Research ICRDB staff provide subject and information retrieval expertise necessary to fulfill the information needs of the ICIC. In addition,

the Division of Cancer Treatment is provided information from the published literature on all aspects of the therapy of cancer. Data from the fields of chemotherapy, radiotherapy, surgery, immunotherapy and the related chemical and biomedical disciplines are used by the staff in meeting Food and Drug Administration requirements for Investigational New Drug filing, preparing clinical brochures and annual drug reports, and as background for evaluation of toxicological and clinical studies.

More than 250 requests for information were received and filled during the year. Responses were provided as comprehensive or selected bibliographies, computer printouts, abstracts or copies of articles. Approximately 60 of the requests entailed manual literature searches supplemented by the various automated bibliographic systems. Monthly SDI (Selective Dissemination of Information) bibliographies are produced for members of the staff on specific subjects of continuing interest.

Support for the PDQ Editorial Board is provided by locating references to new clinical treatment developments and updated reports on standard therapeutic regimens for consideration in maintaining the currency of the state of the art statements. Strategies were developed for 40 search questions, in connection with the linkage of PDQ and CANCERLIT searching facilitated by the PDQ ACCESS program.

A further responsibility is the maintenance of the International Cancer Information Center Library, a collection of journals and books for the use of NCI staff. Copies of over 60 journals are regularly received including many of the cancer journals, abstracting and indexing secondary sources, and chemical, biomedical or information science journals of special interest to ICIC personnel.

Oncology Residency Program Project. Oncology residents are an important group of potential users of PDQ, in that they have made a career commitment in the direction of cancer specialization, they are in a particularly information-absorptive/receptive phase of their careers, and many have already been exposed to computerized database searching in the course of their education. In response to a March 1988 mailing of the PDQ Bibliography to 430 directors of oncology training programs, approximately 180 program directors returned forms requesting future mailings. In November 1988 they received an updated copy of the PDQ Bibliography. In addition, a printed version of the standard therapy protocol for CMF in breast cancer was included with a list of the titles of the remaining 28 standard protocols. The program directors were asked to return a form indicating their interest in receiving a printed version of all the standard protocols and further updates to the PDQ Bibliography. About half requested and subsequently received the standard therapies. In June 1989 they received the PDQ Bibliography update and a packet describing the ICRDB publications, CANCERGRAMS and ONCOLOGY OVERVIEWS. Further mailings at 6-month intervals are planned.

Indian Health Service/National Health Service Projects. These demonstration projects have been initiated to assess the usefulness of PDQ in information-poor clinical practice settings, e.g., IHS clinics located in reservations in Oklahoma, and communities in remote areas which are served by physicians placed through the NHS. Typically, these locations have no convenient access to

library facilities, and physicians must become their own information providers. During FY88-89, free access to PDQ and other MEDLARS databases was provided, as well as complimentary telecommunications software (PDQ ACCESS and GRATEFUL MED). A micro-computer and printer were loaned to the IHS for the one-year duration of the project, and a staff member flew to Oklahoma to set up the workstation and demonstrate PDQ in a formal presentation to IHS staff.

Utilization of PDQ and other MEDLARS databases by IHS and NHS physicians remained minimal despite several interim efforts to generate interest. The Indian Health Service used the database less than seven hours over the year and most of the access codes of the NHS were not used at all. In an attempt to gather some analytical information, a letter was sent to approximately 20 NHS site directors requesting them to provide the name of a health care professional who would be interested in participating in the program. Three physicians returned forms as of July 1989 and will be provided NCI-paid access to MEDLARS databases. It has been difficult, working through the required intermediary channels, to identify the reasons for the poor response to this initiative. However, it appears that the physicians in these settings are not accustomed to using computerized medical information resources, and are not motivated to change. There seems to be general disinterest but no active resistance.

Staff Presentations and Publications. ICRDB staff have made formal presentations to the National Tumor Registrars Association, Annual Meeting; the NIH STEP Program; and a meeting of a Washington, DC librarians' professional association. Staff members have been primary or secondary authors on articles describing the NCI's cancer information services, appearing in the Journal of Clinical Oncology, the Journal of Medical Practice Management, Online, Metastasis Reviews, and have contributed brief articles or news items which have appeared in the NLM Technical Bulletin. ICRDB staff also assembled and moderated a technical session at the 1989 Midyear Meeting, American Society for Information Science (ASIS) on "User Interfaces for Online Systems". In addition, ICRDB personnel are major contributors to staffing of ICIC exhibits at medical or librarian-oriented meetings, particularly where database demonstration is required.

DEPARTMENT OF COMMERCE (National Technical Information Service) (Y01-CO-60702)

Title: ICRDB Information Product Reproduction, Sale and Dissemination Services

Contractor's Project Director: Ms. Louisa Day

Project Officer (NCI): Mr. Cecil Lee

Objectives: This agreement supports the billing, collection and crediting of fees from the leasing of ICRDB databases to private organizations and commercial vendors, and enables NTIS to act as collection agency for the charges incurred by NCI use of access codes for line searching of cancer databases at the NLM. This agreement further supports the maintenance of previously published ICRDB documents in archival storage for supplying copies on request, and the reproduction, sales and distribution of any other ICRDB information products (diskettes, magnetic tapes, microfiche, printed matter) which are most effectively disseminated through the NTIS.

Major Accomplishments: During FY89, the NTIS billed and collected fees from four database vendors and credited more than \$35,000 to the ICRDB NTIS deposit account during the first nine months of the FY. The NTIS also collected fees for and disseminated PDQ ACCESS (diskette and user manual). Two hundred fifty-six copies have been sold as of June 1989. The ICRDB discontinued using the NTIS to produce and distribute the major ICRDB publications, shifting these operations to the Government Printing Office in January 1987.

Significance to Biomedical Research and Program of the Institute: This interagency agreement has assisted the ICRDB in fulfilling its mandated responsibility, the broad dissemination of research information on cancer.

Proposed Course: The ICRDB expects to continue to require NTIS billing and accounts handling services for database usage, leasing and access software distribution, and may, in future years, elect to utilize additional printing and tape reproduction services.

Date Agreement Initiated: September 30, 1976

Current Annual Level: \$200,000

Informatics General Corporation

(A Subsidiary of ATLIS Federal Systems, Inc) (NCI-CO-64088)

Title: Clinical Protocols Analysis and Tracking (CPAT)

Contractor's Project Manager: Ms. Marilyn Meinke

Project Officer (NCI): Dr. David Perry

Objectives: To establish and operate a Cancer Research Project/Protocol Analysis Center. This entails preparing abstracts of investigational cancer treatment protocols and dose modification information, keying and formatting this information for input to computer-based information systems, and maintaining an up-to-date listing of participating institutions and investigators.

Major Accomplishments: During FY89, ATLIS prepared new protocol summaries on 573 protocols. The protocol masterfile grew from 6734 to 7317 summaries. Matrix activity (representing the updating of the institutions and investigators) totaled 14000 for the 12 months. Dose modification screens appeared online in December, 1986. The number of protocols with dose modification screens has grown to over 442. Nine standard therapy protocols went online in November, 1987. Since then, the number of standard protocols has risen to 34.

During the last 12 months extensive discussions on the recoding of protocols to add "exclusion criteria" and "disease-specific criteria" were held. Preliminary coding and mockups of protocol coding were produced. The protocol file should be enhanced with these criteria in early calendar 1990.

Significance to Biomedical Research and Program of the Institute: The CPAT project provides cancer researchers with detailed summaries of clinical cancer trials in progress throughout the United States and Canada. Limited coverage is provided for foreign trials. This unique resource allows for more rational and non-overlapping clinical research to be conducted. In addition, the protocol matrix, containing the links to the names and addresses of investigators and participating institutions, allows researchers to contact each other efficiently.

The CPAT effort also provides practicing physicians and their patients information allowing patients to be enrolled on appropriate investigational trials. For patients with diseases not cured by standard therapies, referral allows for them to receive innovative and state-of-the-art treatments. For practicing physicians, CPAT provides information which allows a more positive approach to patients with advanced cancers.

Date Contract Initiated: June 16, 1986. Contract extended for four years beginning June 16, 1987.

Current Annual Level: Actual billings from June 16, 1986 through April 1989 were \$1,897,838. Obligated funds for this period were \$2,372,372. The resulting unexpended balance has made it possible to release over \$400,000 of budgeted FY89 funds for other NCI needs, on a one-time basis. However, billing is expected to rise to originally budgeted amounts over the remainder of the contract.

INFORMATION VENTURES, INC. (N01-CO-84347)

Title: Cancer Information Dissemination and Analysis Center (CIDAC) for Carcinogenesis and Cancer Biology

Contractor's Project Director: Dr. William Creasey

Project Officer(NCI): Mr. Cecil W. Lee

Objectives: The CIDAC provides scientific input necessary to produce information products and services for cancer researchers, and provides guidance to the ICRDB Branch in the areas of carcinogenesis and cancer virology, immunology and biology.

Major Accomplishments: The CIDAC regularly produces 45 monthly CANCERGRAMS, current awareness bulletins containing abstracts of recently published literature. Ten ONCOLOGY OVERVIEWS, retrospective bibliographies with abstracts concerning high interest topics in basic cancer research, are published annually. Two RECENT REVIEWS, categorized compilation of abstracts of cancer biology and carcinogenesis are published annually. This CIDAC performs custom searches of the CANCERLINE databases in response to requests for information from researchers and health care professionals; submits monthly Highlight Reports, pinpointing significant new developments in preclinical areas of cancer research; and assists in database quality control. The CIDAC also recommends new information services to benefit cancer researchers.

Significance to Biomedical Research and Program of the Institute: The CIDAC serves as a valuable resource for the NCI and the worldwide basic sciences cancer research community. The CANCERGRAMS collectively provide comprehensive coverage of this entire field of basic cancer research, quickly alerting researchers to new findings with minimal expenditure of effort, thereby allowing them more time for productive research. ONCOLOGY OVERVIEWS enable their readers to rapidly update their knowledge in emerging areas of research concentration.

Proposed Course: The contractor will continue production of CANCERGRAMS and ONCOLOGY OVERVIEWS and provision of information services. As of January 1990, the number of CANCERGRAM titles will decrease due to consolidation of several existing CANCERGRAMS. This should lead to more effective marketing and distribution.

Date Contract Initiated: August 6, 1988

Current Annual Level: \$595,211

INFORMATION VENTURES, INC. (N01-CO-84348)

Title: Cancer Information Dissemination and Analysis Center (CIDAC) for Cancer Diagnosis and Therapy

Contractor's Project Director: Dr. William Creasey

Project Officer(NCI): Mr. Cecil W. Lee

Objectives: The CIDAC provides scientific input necessary to produce information products and services for cancer researchers, and provides guidance to the ICRDB Branch in the area of cancer diagnosis, therapy, and rehabilitation.

Major Accomplishments: The CIDAC regularly produces 21 monthly CANCERGRAMs, current awareness bulletins containing abstracts of recently published literature. Five ONCOLOGY OVERVIEWS, retrospective bibliographies with abstracts concerning high interest topics in clinical cancer research, are published annually. One RECENT REVIEW, a categorized compilation of abstracts, of cancer diagnosis and therapy is published annually. This CIDAC performs custom searches of the CANCERLINE and PDQ databases in response to requests for information from physicians and other health care professionals; submits monthly Highlight Reports, pinpointing significant new developments in clinical cancer research; and assists in database quality control.

Significance to Biomedical Research and Program of the Institute: The CIDAC serves as a valuable resource for the NCI and the worldwide cancer research community in the area of oncology research. The CANCERGRAMs collectively provide comprehensive coverage of this entire field, quickly alerting researchers to new findings with minimal expenditure of effort, thereby allowing them more time for productive research. ONCOLOGY OVERVIEWS enable their readers to rapidly update their knowledge in emerging areas of research concentration, or provide state-of-the-art perspectives on major areas of treatment research.

Proposed Course: The contractor will continue production of CANCERGRAMs and ONCOLOGY OVERVIEWS and provision of information services. As of January 1990, the number of CANCERGRAM titles will decrease due to consolidation of several existing CANCERGRAMs. This should lead to more effective marketing and distribution.

Date Contract Initiated: August 30, 1988

Current Annual Level: \$421,614

INFORMATION VENTURES, INC. (N01-CO-84338)

Title: Screening, Indexing, Abstracting, and Keying of Cancer-related Literature (SIAX)

Contractor's Project Director: Ms. Silba Cunningham-Dunlop

Project Officer (NCI): Mr. James Carter

Objectives: The SIAX project collects, indexes, and keys abstracts presented at meetings which describe current cancer research. The project also indexes and keys abstracts of books, journal articles, technical reports, and other documents not covered by NLM. These abstracts are part of the source material for CANCERLIT, CANCERGRAMS, and ONCOLOGY OVERVIEWS. Foreign abstracts are translated to English. Abstracts are written when none are given.

Major Accomplishments: During most of FY89, an average of approximately 800 items were processed each month and forwarded to the ICRDB Computer Support Contractor for the final reformatting required to update the CANCERLIT database. The meeting abstracts are collected from hundreds of medical conferences such as the American Association for Cancer Research, the American Society of Clinical Oncology, and the Federation of American Societies for Experimental Biology. During March through June 1989, major efforts were expended to rapidly input several thousand abstracts from these three key meetings held in April and May, with the result that this information will be available in the ICRDB databases and publications months earlier than was previously possible. Books, reports and other documents are collected from hundreds of sources.

Significance to Biomedical Research and Program of the Institute: The SIAX project provides rapid, easy access to cancer research information presented at meetings and published in other sources not covered by the National Library of Medicine's MEDLINE database. This information can be retrieved by searching the CANCERLIT database in any narrow topic area of cancer or from reading the CANCERGRAMS and ONCOLOGY OVERVIEWS prepared from CANCERLIT by ICRDB contractors.

Proposed Course: The project will continue for a five-year period. Concept approval has been obtained for a modification to the contract to provide for addition of cancer research project information to the input stream for CANCERLIT.

Date Contract Initiated: February 22, 1988

Current Annual Level: \$328444 (2/22/89-2/21/90)

Final Date of Contract: February 21, 1993

NATIONAL LIBRARY OF MEDICINE (Y02-CO-30708)

Title: Joint NLM/NCI Intra-agency Agreement

Contractor's Project Director: Mr. John Anderson

Project Officer(NCI): Mr. James Carter

Objectives: This agreement with the NLM provides for the generation, maintenance and operation of the NCI databases and systems (PDQ, CANCERLIT, CLINPROT) on the NLM computer, and for dissemination of information in these collections via the MEDLARS network to institutions and individual users.

Major Accomplishments: The NLM contributes cancer abstracts prepared for the MEDLINE database as a major component of the input for the cancer literature database, CANCERLIT. The NLM also maintains and updates the NCI online databases, including: CANCERLIT, containing about 650,000 abstracts of published literature; and CLINPROT, containing 7,400 summaries of clinical protocols used in the treatment of cancer. In addition, the NLM maintains the PDQ database, which contains state-of-the-art information on the diagnosis, staging, prognosis and treatment of over 80 types of cancer; 1300 summaries of standard and investigational treatment protocols; and names, addresses and telephone numbers of more than 14,000 physicians and 1500 organizations specializing in the treatment of cancer. All databases are updated monthly.

Significance to Biomedical Research and Program of the Institute: Through the MEDLARS system, users at more than 25,000 locations in the U.S. and 16 other countries may have rapid access to the cancer information stored in the CANCERLINE and PDQ databases. Through the NLM, the CANCERLIT database is further licensed to major online vendors, including DIALOG, DATA-STAR and BRS. Physicians, researchers and other health professionals use the information retrieved from searches of these databases to improve cancer patient care and design more productive research experiments.

Proposed Course: The intra-agency agreement will continue to provide the database input, maintenance, and dissemination services as described.

Date Contract Initiated: May 1, 1983

Current Annual Level: \$800,000

Final Contract Date: September 30, 1992 (Intra-agency agreement was signed in FY-88 as modification #11 to previous agreement.)

PDQ DATABASE DISTRIBUTION AGREEMENTS

July 1989

<u>Vendor</u>	<u>Type of license</u>	<u>Status</u>
NLM (also Gateway: The Source)	Online	Active
Maxwell/BRS (also Gateways: CompuServe/IQuest; Western Union InfoMaster)	Online	Active
Mead Data Central	Online	Active
TELMED	Online	Active
MediMatica	Online	Active
Georgetown Univ. (via MUMPS)	Online	Active
G W University (via MUMPS)	Online	Active
Cambridge Sci. Abs. (via SearchLITE)	CD-ROM	Active
J.B.Lippincott (via SearchLITE)	CD-ROM	Active
AMA/Net (via SearchLITE)	Online	Active
EORTC (via SearchLITE)	Online	Active
Data-Star	Online	Pending
DIALOG	Online	Pending
Veterans Admin. (via MUMPS)	Online	Pending
John Hopkins Univ.	Online	Pending
SilverPlatter	CD-ROM	Pending
Aries Systems	CD-ROM	Pending
Online Res.Systems	CD-ROM	Pending
DIMDI (W.Germany)	Online	Pending

State of Texas	Online	Pending
State of Nebraska	Online	Pending
ARC (France)	Online	Pending
Am.Acad.Dermatol.	Online	Pending
Spain(Andalusia) (via MUMPS)	Online	Pending
Univ. Istanbul (Turkey) (via MUMPS)	Online	Pending

CANCERLIT DATABASE DISTRIBUTION AGREEMENTS

July 1989

<u>Vendor</u>	<u>Type of license</u>	<u>Status</u>
NLM	Online	Active
Maxwell/BRS (also Gateways: CompuServe/IQuest; Western Union InfoMaster)	Online	Active
Cambridge Sci. Abs.	CD-ROM	Active
J.B.Lippincott (via SearchLITE)	CD-ROM	Active
Data-Star	Online	Active
DIALOG	Online	Active
Univ. Tsukuba	Online	Active
SilverPlatter	CD-ROM	Active
Aries Systems	CD-ROM	Active
Online Res.Systems	CD-ROM	Pending
State of Texas	Online	Pending

COMPUTER COMMUNICATIONS BRANCH

The Computer Communications Branch (CCB) maintains and operates the ICIC Computer Communications Center, including both local and wide area communication networks, in support of centralized scientific and medical information services of the National Cancer Institute. These services include the production and distribution of PDQ and CANCERLIT as well as the printed derivatives of CANCERLIT.

Other activities include developing and publishing procedures for use of the computer facility and the distributed computers linked to it; developing and acquiring systems software and telecommunications to support the computer facility; coordinating all hardware and systems software for the computer center to insure efficient operation; developing, maintaining, and upgrading information delivery systems by exploiting state-of-the-art technology such as Compact Disc-Read Only Memory (CD-ROM) and Artificial Intelligence techniques; and designing and developing computerized applications for all branches of the ICIC. The CCB also provides services such as mailing label production for the President's Cancer Panel meetings, for special monograph mailings and for the Cancer Information Service (CIS); and conducts training programs related to PDQ for user groups, CIS Offices and others.

PDQ (Physician Data Query) A major responsibility of the CCB is the ongoing production of the PDQ database. Updated every month, the PDQ database consists of four component files (cancer information and literature, clinical research protocols, and a directory of physicians and organizations).

The Cancer Information File contains prognostic and treatment information on the major types of cancer. For each, a general summary (information for patients) and a detailed physician summary (state-of-the-art statement) are provided, describing current prognosis, stage definitions and explanations, cellular classifications, treatment options that include a range of comparable standard therapies and information on the treatment approaches under evaluation in clinical research trials, as well as key citations in the literature. For each citation, an abstract is also available.

The Directory File contains nearly 14,000 names, addresses and telephone numbers of physicians who devote a major portion of their clinical practice to the treatment of cancer patients, and the names, addresses and telephone numbers of over 1,600 health-care institutions that provide care for cancer patients.

The Protocol File contains over 1,300 active protocols supported by the National Cancer Institute as well as protocols submitted voluntarily by clinical investigators across the country and from the European Organization for Research and Treatment of Cancer (EORTC). Each protocol summary provides study objectives, patient entry criteria, details of the treatment regimen, and information about who is performing the trial and where it is being conducted. The Protocol File can also be searched for details about the treatment regimens, special study parameters, and treatment schedules. Dose modification information is available for most phase III studies.

The goal of PDQ is to disseminate information on progress in cancer treatment

to practicing physicians and to reduce cancer mortality nationwide. To achieve these goals, NCI makes PDQ available in a user-friendly version through the National Library of Medicine's MEDLARS system, and has licensed PDQ to several commercial time-sharing vendors in the United States and Europe. CCB staff produces and distributes current data tapes to these vendors each month. A version of PDQ is also available on CD-ROM as a result of a Small Business Innovative Research (SBIR) project. The CD-ROM version of PDQ has been successfully marketed during the year and interest in the product continues to increase.

ICIC COMPUTER COMMUNICATIONS CENTER

The computer and communications hardware, and the system software at the ICIC Computer Communications Center, was completely replaced during the first six months of 1989. New hardware provides reliable and efficient state-of-the-art computing. New software, including the UNIX operating system and the Oracle database management system, provide increased adherence to standards that will facilitate future system development and enhancement.

PDQ on the NLM's MEDLARS System Continual improvements to the NLM version of PDQ so that users may search precisely and efficiently is a high priority of the ICIC. CCB staff added several new features to the NLM user interface during the year. These include allowing retrieval of protocols by type of institution such as cancer centers, cooperative groups, or NIH component; allowing the entry of multiple drugs to facilitate retrieval of combination chemotherapies; allowing users to retrieve predefined CANCERLIT search strategies related to their PDQ search; and a variety of other enhancements designed to speed and smooth the retrieval of information. Monthly usage of PDQ has once more increased steadily, with monthly use currently averaging over 1,000 hours. PDQ remains one of the most used databases at NLM.

RESEARCH AND DEVELOPMENT

During the year, CCB became involved in the design of an Oncology Work Station. It is anticipated that a modern computer work station could be configured to house the entire contents of PDQ, have the ability to keep medical records for cancer patients, and have the ability to manage patients on clinical protocols using expert system or artificial intelligence techniques. Such a work station would be located in physician offices in group practices, cooperative groups, etc. Small Business Innovative Research (SBIR), Cooperative Research and Development Agreement (CRADA), and other contracting mechanisms are being used to facilitate the development of the Oncology Work Station.

SECOND FOUNDATION, INC. (N01-CO-54055)

Title: Computer Support for Cancer Information Dissemination

Contractor's Project Director: Dr. Peter L. Walton

Project Officer (NCI): Dr. Robert Esterhay, Jr.

Assistant Project Officer (NCI): Ms. Rita M. Burke

Objectives: The purpose of this contract is to obtain computer support services for the ongoing maintenance of ICIC databases: PHYSICIANS DATA QUERY (PDQ) - contains data on prognosis, stage information, and treatment options for all major types of cancer. PDQ also contains the names, addresses, and telephone numbers of physicians and organizations that specialize in cancer treatment protocols supported by NCI and all voluntarily submitted protocols from cancer treatment organizations/institutions throughout the United States as well as foreign countries.

CANCERLIT contains 600,000 citations and abstracts describing published results of cancer research projects.

The contractor must also process and format technical publications: CANCERGRAMS, ONCOLOGY OVERVIEWS and RECENT REVIEWS.

Major Accomplishments: The databases and publications described above have been regularly maintained and produced according to schedule. The PDQ Cancer Information file has been updated with changes to all state-of-the-art statements as well as the addition of a new data structure to accommodate rare tumor descriptions, and rewritten information for patients statements that reflect added attention to the needs of cancer patients. SFI added the capability to receive updates to the cancer information file in word processing format to accommodate ICIC maintenance personnel.

The PDQ directory file has been updated each month with current information concerning nearly 14,000 physician members of 17 national cancer societies, 13 clinical trials groups, 56 community clinical oncology programs and over 1,600 cancer care organizations. Several thousand updates were processed each month to keep this file up-to-date.

The PDQ protocol file has been updated monthly with the addition of new protocols, including over 100 EORTC studies, so that PDQ now contains over 1,300 investigational studies and 33 standard studies.

New cancer terms were added to the PDQ thesaurus (Cancer Term file) to facilitate coding of protocols to allow retrieval based on patient eligibility criteria and protocol specific eligibility criteria.

Parallel processing was performed in conjunction with new hardware and software to insure a smooth phase out of this contract at the end of September 1989. Testing of an incremental update procedure was completed.

Significance to Biomedical Research and Programs of the Institute: The computer support provided by the contractor is of central importance to the entire spectrum of ICIC products and services. The effective treatment of cancer can be enhanced by dissemination of state-of-the-art treatment information. This will reduce the mortality of cancer by shortening the time lag involved in informing physicians of the latest treatment advances.

Proposed Course: Plans call for this contract to end on September 30, 1989.

Date Contract Initiated: November 1, 1984.

Current Annual Level: \$1,581,519

TECHNICAL RESOURCES, INC. (N01-CO-44029), (N01-CO-94389)

Title: Cancer Information Processing for the PDQ
Information System

Contractor's Project Director: Mr. James Pennington

Project Officer (NCI): Ms. Rita M. Burke

Assistant Project Officer (NCI): Dr. Robert Esterhay, Jr.

Objectives: In December of 1988, a new contract (N01-CO-94386 below) was awarded which includes the services now performed by this contract. The purpose of this contract, which was extended through September 30, 1989 in order to provide overlap processing during system conversion, is to provide personnel to perform data analysis and validation of source documents used to update the directory portion of the Physician Data Query (PDQ) database, and to provide personnel to operate the outgoing Government-owned computer system which generates monthly distribution tapes of the PDQ database and documents used in the maintenance of PDQ.

Major Accomplishments: During the initial period of contract overlap, the contractor operated the mailing process of the PDQ directory update maintenance mailers that are sent each month to physicians and organizations.

Contractor staff have continued to maintain and support outgoing hardware and software in the ICIC Computer and Communications Center, monitoring computer operation, operating test equipment, diagnosing hardware and software problems and restoring hardware service when required.

The mailing operation at each month end, along with PDQ distribution tape production, and production of miscellaneous reports required by the PDQ Editorial Board, were performed in a timely manner, insuring the currency and accuracy of PDQ information.

As part of the transition process, all regular maintenance mailer processing was transferred to Second Foundation, Inc. (SFI) during early 1989. All reference materials and an inventory of materials was sent to SFI.

Significance to Biomedical Research and Programs of the Institute: The operations support provided by the contractor is of central importance to the ongoing maintenance and distribution of the PDQ database.

Proposed Course: Plans call for this contract to terminate on September 30, 1989.

Date Contract Initiated: February 1, 1989

Current Annual Level: \$163,563

Synectics for Management Decisions, Inc (RFP No. NCI-CO-84321-40)

Title: Acquisition of CD-ROM Technology

Contractor's Project Director: Mr. James K. Tyson, Jr.

Project Officer (NCI): Dr. Robert J. Esterhay, Jr.

Assistant Project Officer (NCI): Ms. Rita M. Burke

Objectives: The purpose of this contract is to investigate a new optical storage/distribution medium called Compact Disc - Read Only Memory (CD-ROM) in conjunction with the increasing widespread use of personal computers as they relate to the fulfillment of the National Cancer Institute's and International Cancer Information Center's mission for the dissemination of cancer information to physicians, researchers and other health professionals.

Major Accomplishments: A product survey of available CD-ROM hardware and software, and a characterization of ICIC information products were completed. A parameter test list was constructed to be used in trials of prototype configurations of CD-ROM equipment, and equipment has been procured and is in the process of being tested by typical users of ICIC information products.

A seminar was presented to ICIC staff by the contractor where the history and direction of CD-ROM was discussed, demonstrations of CD-ROM equipment and software were made to ICIC staff by vendors, and ICIC staff were able to test various hardware/software combinations. Products discussed included a networked version of CD-ROM equipment and a portable, book-like version of a CD-ROM player that is usable without a keyboard.

Significance to Biomedical Research and Programs of the Institute:

Acquisition of CD-ROM technology is important as an alternative and complimentary technology to the future information dissemination of the PDQ and Cancerlit databases, the database derivative information products, and the NCI Journals. These information services and products are central components in NCI's mandate under the National Cancer Act to "collect, analyze, and disseminate all data useful in the prevention, diagnosis and treatment of cancer...."

Proposed Course: Plans call for an eighteen month contract through January 29, 1990.

Date Contract Initiated: September 12, 1988

Current Annual Level: \$154,081

SECOND FOUNDATION, INC. (N01-CO-94386)

Title: Computer Support for Cancer Information Dissemination

Contractor's Project Director: Dr. Peter L. Walton

Project Officer (NCI): Dr. Robert Esterhay, Jr.

Assistant Project Officer (NCI): Mr. Michael Arluk, Ms. Rita M. Burke, Mr. Kent Hevner

Objectives: This project involves the purchase, installation, and acceptance test of new mid-range computer hardware, operating system software, and database management system software. The project requires database conversion, application software development, and maintenance and support for ICIC databases:

PHYSICIANS DATA QUERY (PDQ) - contains data on prognosis, stage information, and treatment options for all major types of cancer. PDQ also contains the names, addresses, and telephone numbers of physicians and organizations that specialize in cancer treatment protocols supported by NCI and all voluntarily submitted protocols from cancer treatment organizations/institutions throughout the United States as well as foreign countries.

CANCERLIT contains 600,000 citations and abstracts describing published results of cancer research projects. The contractor must also process and format technical publications: CANCERGRAMS, ONCOLOGY OVERVIEWS and RECENT REVIEWS.

Major Accomplishments: The contractor has procured and installed two new Hewlett Packard 9000, model 850 computers. The Unix operating system and Oracle database management system have been installed on these computers. New communications equipment has been purchased to increase the performance of the ICIC local area network (LAN) and create a wide area network (WAN) connecting ICIC contractors, subcontractors, ICIC personnel and other potential users. The equipment has passed a continuous 30-day acceptance test.

Existing software to update and distribute PDQ, CANCERLIT, and CANCERLIT derivative products has been converted to operate on the new computer equipment. The PDQ and CANCERLIT databases have been converted to reside on the new computer equipment.

Parallel testing for the production of both PDQ and CANCERLIT are underway. A complete conversion to the new hardware and software will occur by September 30, 1989.

Significance to Biomedical Research and Programs of the Institute:

Proposed Course: Plans call for this contract to span the five-year period December 30, 1988 through December 29, 1993.

Date Contract Initiated: December 30, 1988

Current Annual Level: \$2,394,459

PUBLICATIONS BRANCH

The Publications Branch coordinates the publication of cancer research findings in the Journal of the National Cancer and in the NCI Monographs. The Branch Chief is responsible developing and implementing procedures that improve the dissemination of published information to the scientific community.

The Journal of the National Cancer Institute, published twice-monthly, and its supplements, NCI Monographs, published intermittently, are the products produced by the Branch. The Journal's primary goal is to provide rapid publication of research results. All material submitted for consideration is subject to review by the Editorial Board and two or more experts in the research area. Automated systems have been established to expedite manuscript processing, peer review, and post-acceptance production activities. Responses to the new Journal have been favorable with positive feedback on both format and content. Contents include:

1. Full length articles - reporting the laboratory or clinical cancer research findings.
2. Reports - briefly describing basic or clinical research results.
3. Reviews - providing comprehensive overviews of issues of scientific interest.
4. Letters - describing findings of general interest, expressing opinions about material previously published in the Journal, or views on topics of current relevance to some aspect of the cancer research.
5. Book Reviews - critiquing new scientific publications.
6. Commentaries - highlighting scientific meetings, the intersection of science and public policy, or news items of interest to cancer researchers.
7. News - providing a vehicle for timely information about the latest advances in cancer research, new legislation, and public policies.
8. Announcements - providing a list of scientific symposia.

Editorial Board

The Editorial Board of the Journal of the National Cancer Institute includes the Editor-in-Chief and 28 associate editors. Dr. Daniel C. Ihde is the current Editor-in-Chief. The Editorial Board composed of prominent scientists with recognized expertise in their respective area of cancer research, shares responsibility with Dr. Ihde for determining the scientific content of the Journal. An editorial advisory board of 93 extramural experts supplements the core board, providing a broad spectrum of scientific expertise that complements and extends the expertise of the associate editors. The Editor-in-Chief is advised on technical and administrative policies and instructions to authors for the Journal are reprinted in each issue.

Manuscript Submissions in 1988-1989

During 1988-89, 1060 manuscripts were processed for the Journal of the National

Cancer Institute. The following table indicates the average acceptance and average rejection rates from October 1988 to June 1989.

1988-1989 JNCI Statistics

	<u>Submitted</u>	<u>Accepted</u>	<u>Reject</u>	<u>Accepted pending revision</u>	<u>Unacceptable (considered if revised)</u>	<u>Sent for external review</u>	<u>Total decisions</u>
Oct	92	25	53	17	8	32	95
Nov	75	29	52	22	4	36	103
Dec	64	18	34	8	2	34	60
Jan	72	24	65	10	9	34	99
Feb	56	23	90	16	12	48	129
Mar	74	34	102	16	12	38	152
Apr	63	26	104	7	6	34	137
May	84	24	88	9	6	40	121
Jun	84	30	117	17	13	39	164

Total	664	233	705	122	72	335	1060

Manuscript Tracking

All manuscripts submitted for publication in the Journal are processed using a computerized tracking system and then assigned to an associate editor who supervises the peer review process. The computerized document control system minimizes the time and effort required to process manuscripts. Less personnel are required and tasks are performed more efficiently and expeditiously. The document control system also provides the Editorial Board with rapid and easy access to data on reviewers, the status of each submission, and analyses of manuscript actions/decisions. Current plans for enhancing the system include the development of a reviewer data base that contains information on potential reviewers by name, specialty, research interests, performance as a reviewer, and the current number of manuscripts in review. A post acceptance tracking system, is also under consideration. This system would track the production phases of a manuscript through the editorial process from acceptance into print.

Subscriptions

The Publications Branch continues to explore industry-wide methods and techniques for automating and speeding up the process of publishing and tracking the peer-review process. This has been accomplished by attending meetings of the Federal Publishers Committee, the Congressional Office of Technology Assessment, The Society of Scholarly Publishers, and the Council of Biology Editors. Staff attend the task force meetings sponsored each month by the Federal Publishers Committee. Task forces have been established on Marketing and Promotion, Postal Economy, Periodical Management, and Electronic Publishing to keep federal publishers abreast of technical developments in publishing and new federal policies.

The response to the new Journal after one year of publishing, from the biomedical community, has been gratifying. The NCI has received numerous unsolicited letters praising the Institute for its decision to consolidate its scientific

publications. Favorable comments have also been forthcoming on the quality of the published articles, its scope, and the new format. Responses from subscribers can be summarized by the following statistics:

1. There were 4,778 paid subscriptions (1,685 to JNCI and 3,093 to CTR) at the end of 1987 when CTR and JNCI ceased publication.
2. Pre-publications promotion brought the total number of paid subscriptions to 4,900.
3. As of June 1989, the Government Printing Office reported that the total number of paid subscriptions is now 4,509. Approximately 9,800 copies of each issue of the Journal are distributed; 4,509 go to paid subscribers. Another 2,919 "official" copies are distributed on a complimentary basis to governmental organizations; 752 go to Federal depository libraries; 158 to the News media, 491 to government book stores, and 257 to NIH staff.

Printing

A two year contract was drawn up in June of 1987. Although this contract does not end until September 30, 1989, a new two year contract is being prepared now by the Government Printing Office. It is to be awarded in early August enabling the typesetter to begin setting galley proofs for editors and authors to read in time for insertion into the September/October issues when the present contract will have expired.

The printer mails all issues directly from its plant, eliminating the necessity to ship them back to NIH or GPO for distribution. This provides a significant saving in time and cost. Mailing lists for subscribers maintained at the Superintendent of Documents office at GPO and sent to the printer just prior to each issue. A press list and other official press distribution lists will soon be maintained at ICIC on a personal computer and are also forwarded to the printer in time for each issue.

Mailing the Journal at second class rates has lowered the cost of an annual subscription substantially. The price, which is set by GPO, is now \$ 51.00 for domestic subscribers and \$ 63.75 for foreign subscribers. Prices were lowered by GPO from \$ 60.00 domestic and \$ 75.00 foreign in July of 1989.

NCI Monographs

The format of the Monographs has been redesigned as a companion piece and will be supplements to the Journal. A total of two NCI Monographs have been printed in 1988/89. The following titles have been published:

1. Consensus Development Conference on the Management of Clinically Localized Prostate Cancer.
2. Smokeless Tobacco Use in the United States.

The following title is currently in production:

1. Oral Complications of Cancer Therapies: Diagnosis, Prevention, and Treatment.

The following titles are currently being considered for 1989-1990:

1. Consensus Development Conference on the Clinical Management of Colorectal Cancer.
2. Consensus Development Conference on the Management of Women with Early Stage Breast Cancer.
3. The Lymphomas: Current Concepts in Pathogenesis and Management.
4. Overview of Breast Cancer.

Support Contracts

A three-year contract is being solicited to follow the present proofreading contract with Grammarians. It will supply the Branch with editorial services including proofreading, copy editing, and writing for the Journal, NCI Monographs, and miscellaneous reports.

Coverage of the Journal in Other Publications

The Journal is indexed in the following publications: Biological Abstracts, Chemical Abstracts, Index Medicus, Nutrition Abstracts, Hygiene Abstracts, Biotechnology Abstracts, CIS Abstracts, Current Contents, Dental Index, Index U.S. Government Periodicals, Risk Abstracts, and Excerpta Medica.

The ICIC MARKETING OFFICE:

In its third year of operation, the ICIC Marketing Office has firmly established liaison activities with other NCI operational offices such as the Office of Cancer Communications (OCC), the Division of Cancer Prevention and Control, as well as the National Library of Medicine (NLM), and the Cancer Nursing Service of the Clinical Center, and has begun new relationships with outside organizations such as the American Medical Association and the American Association of Medical Colleges. Following is an outline of those activities.

Committees and Joint Activities with OCC

The ICIC Marketing Coordinator is responsible for the coordination of the Patient Information File activities related to planning the Editorial Advisory Board meetings. She is the principal liaison to the Chairman of that Board (Helene Brown, from the Jonsson Comprehensive Cancer Center and a member of the National Cancer Advisory Board), and the Chief, Patient Education Section, from the Information Projects Branch of OCC who is Chairman of that Working Group. She also coordinates the clerical support that is required for the revision of the patient statements in PDQ, and the preparation of minutes and reports from the Internal Working Group meetings, and will be responsible for marketing the new file to target audiences.

The Marketing Coordinator also represents the ICIC (primarily for PDQ information and marketing input) as a member of the Clinical Trials Committee organized by the Information Projects Branch of OCC to handle the NCI Clinical Trials Education and Promotion initiative.

Over the past year, the ICIC Marketing Coordinator has, to the extent possible without a specified budget, conducted marketing activities in line with the comprehensive PDQ Marketing Plan which was developed in concert with OCC's Information Projects Branch and OCC's Planning Board. This long-range plan, designed to increase PDQ awareness and use by physicians, intermediaries, and allied health professionals involved in cancer care, incorporates numerous products and services of the OCC and ICIC. In late 1989 when a major communications support contract is recompeted by OCC, the ICIC Marketing Director will oversee a task area devoted to implementation of the plan components. Finally, the Marketing Coordinator and staff are involved in helping to coordinate preconference workshops and panel sessions for the upcoming Sixth Cancer Communications Conference in January 1990 co-sponsored by NCI and the American Cancer Society.

Contracts

ICIC began a process this year of phasing out use of individual technical support contracts for such services as: inquiry responses, warehousing and inventory of publications, exhibit logistics, and general marketing activities. To have all of these tasks handled more efficiently and cost effectively and to use broader scope contractors, the ICIC marketing office has or will obligate funds to two OCC contract efforts, the current Biospherics Inc. (N01-CO-84339) and a recompetition of the Cancer Communication support contract (N01-CO-64077) and jointly administer a new contract to Production House, Inc. (263-89-C0059). All of these joint efforts are described more fully elsewhere in this ICIC Marketing Office section of this report.

Exhibits

The NCI Joint Exhibit Program has continued in cooperation with the Information Resources Branch of the OCC. The NCI now has a comprehensive exhibit program which provides information to health professionals about NCI's patient education materials and cancer information services, as well as its' professional education materials and services, such as PDQ and the cancer information databases, and the technical publications, such as CANCERGRAMS and the Journal of the National Cancer Institute. The exhibit structure, which is used to demonstrate various products and services, is a component system flexible enough to accommodate special promotions, database demonstrations, videotape presentations, and publications display. A brochure which provides an overview of NCI services, entitled "Helping You Help Your Patients", has been printed and is distributed whenever the joint exhibit structure is used.

In the past fiscal year, the ICIC and OCC exhibited jointly at the Oncology Nursing Society (ONS) and the American Society of Clinical Oncology (ASCO) and the American Association for Cancer Research (AACR) annual meetings. In addition, the ICIC attended the following meetings, and in some cases not only as an exhibitor, but as a sponsor of a special activity or event as indicated.

- National Black Leadership Initiative on Cancer Meetings - Special PDQ demonstrations: Houston, New York City, and Washington, DC
- American Cancer Society Cancer Management Meeting - (Los Angeles, CA)
- Special PDQ demonstration
- Cancer Information Service Annual Meeting - (Chicago, IL) Special PDQ demonstration and CIS update training
- American Academy of Pediatrics - (Orlando, FL) New exhibit
- Oncology Nursing Society - (San Francisco, CA) Two PDQ User Group Seminars
- American Society of Clinical Oncology
- American Association of Cancer Research
- Medical Library Association - (Boston, MA) Special PDQ User Group Seminar
- National Tumor Registrar's Association
- Scheduled For FY89:
 - International Congress on Strategies for Care in Oncology (August 1989)
 - American Society of Pediatric Hematology and Oncology (September 1989)

Based on positive feedback and an increase in awareness and use of ICIC products and services from attendance at medical meetings where NCI has a related activity, the exhibit program now includes regular use of special events or pre-printed promotions combined with exhibits to optimize exposure and maximize benefit derived from exhibiting.

Because there are significant staff resources required to support such a proactive and comprehensive exhibit program, a logistical support contract has been awarded to Production House, Inc. to support continued exhibit activities. Future plans call for development of an international exhibit and a joint Clinical Trials - PDQ exhibit.

National Library of Medicine

ICIC continued to collaborate with the NLM to emphasize that PDQ and the CANCERLIT and CLINPROT databases are part of the MEDLARS system. More and more physicians are obtaining personal codes to become users of MEDLARS and we feel it presents a good opportunity to reiterate to physicians that they

now have access to NCI databases through MEDLARS. ICIC is collaborating with NLM to develop a special joint (ICIC/NLM) training class which will include advanced PDQ training combined with documentation for using Grateful Med, PDQ, and other cancer database training to support users requiring more sophisticated training (such as the cancer information service personnel and other health professionals who conduct a high volume of cancer information searches of online databases for their audiences).

Division of Cancer Prevention and Control

The ICIC Marketing Office worked in the past year with the Division of Cancer Prevention and Control (DCPC) on PDQ-related activities, particularly with regard to minority outreach, the PDQ evaluation report, and as co-members of the PDQ Patient Information Working Group and the Clinical Trials Education and Promotion Committee. PDQ staff provided demonstration exhibits and materials at the Black Leadership Conferences which were held in conjunction with the NCAB and DCPC staff during the past year.

Cancer Information Service

The Marketing Office continues its close relationship with the Cancer Information Service network. Within the past year the CIS was moved organizationally from DCPC to the OCC. The CIS is instrumental in helping to promote PDQ use through provision of PDQ statements and information to patients to be given to their physicians. The CIS use of PDQ represents more than 50% of the monthly hourly use of PDQ on NLM's system. The ICIC Marketing Office has arranged for CIS to help staff exhibits at medical meetings held in locations near a CIS office. Also, selected CIS offices have requested loan/use of the specially designed PDQ tabletop exhibit and support materials for their own community outreach programs and the Marketing Office accommodated this effort. Finally, three new PDQ print ads have been designed and distributed which promote use of 1-800-4-CANCER phone number.

Cancer Nursing Service at the Clinical Center, NIH

This year's focus at the Oncology Nursing Society annual meeting was the sponsorship of two small PDQ user group sessions (approximately 20 people at each) during the congress. The clinical center nurse who has been responsible for orchestrating previous oncology nursing participation through the Marketing Office has designed and led the user groups, has co-authored an article with the on PDQ which appeared in Oncology Nursing Forum (July/August 1989)> She plans to give a poster session at the upcoming American Association of Cancer Education meeting in Denver in October 1989. Nurses play such a pivotal role in patient care and clinical trials, and will remain involved on an ongoing basis with PDQ training, updates, and promotional initiatives.

Evaluation of ICIC Information Products and Services

Evaluations of ICIC products and services are concerned with the users, information needs of the users, how they prefer to obtain their information, and what use is made of the information. The results of these evaluations will enable ICIC to determine the utility of its products and services and the level of awareness and use among target audiences. An evaluation of ICIC databases and journals is expected to be completed and available in the next six months.

Patient Education

Patient Education

ICIC staff, in collaboration with the Office of Cancer Communications (OCC) staff, have organized an Internal Working Group composed of staff from ICIC, OCC, Division of Cancer Prevention and Control, and Cancer Nursing at the Clinical Center to begin work on the enhancements to the information for patients in PDQ. The Working Group has met several times in the past year and has made recommendations to the External Advisory Board based on a needs assessment study drawn from an evaluation of the patient information statements by patients, families, and health care workers. The External Advisory Board is composed of health educators, physicians, oncology nurses, patient education specialists, and marketing and information specialists. The second meeting of this Board was held in March 1989. The prototype of the PDQ "information for patients" statements was presented by ICIC/OCC staff and approved at this board meeting and two of these statements are currently online PDQ. Over the summer of 1989, the other statements are being revised by specially contracted medical writers. It is expected that the remaining statements will be revised and online in early 1990.

PDQ marketing strategies with regard to the Patient Information File were discussed at the March 1989 meeting and a future promotion through 11,000 members of the International Association of Business Communicators has been planned. An American Association of Retired Persons member has been added to the External Advisory Board. The External Advisory Board and the Internal Working Group will meet or be used as advisors as appropriate to discuss and review the new file.

JOURNAL OF THE NATIONAL CANCER INSTITUTE

The new JOURNAL of the National Cancer Institute is now a well-established oncology publication covering the broad spectrum of clinical and basic research and news and issues of interest to the cancer community. Several marketing research and promotion activities were conducted through help by a support contract and a special journal marketing consultant. The following is a summary of these initiatives.

A telephone survey of the JOURNAL of the National Cancer Institute various subscribers (news media, NIH scientists, physicians, librarians) was conducted to measure the users satisfaction with the publication. The response was overwhelmingly positive and was documented in several short reports. Personal interviews were conducted and a report was generated describing how Comprehensive Cancer Center Public Affairs Representatives could assist the ICIC in promoting the JOURNAL of the National Cancer Institute to increase journal awareness and submissions of articles and news from their institutions. In addition, the contractor collaborated with the ASCO and comprehensive cancer center press offices to promote articles published in the JOURNAL of the National Cancer Institute.

Special promotions to targeted physician markets (e.g., pediatricians and neurosurgeons) were completed. Manuscripts of interest to these markets were solicited, published, and the special issue was disseminated via special direct mailings and during exhibits at the annual meetings of these groups.

A solicitation package was prepared for Editorial Board members to solicit

manuscripts from potential authors at annual meetings on subjects of high interest. The package was successfully tested at the ASCO/AACR meetings and authors have submitted their manuscripts as a result. Finally, either the Marketing Coordinator or the Publications Marketing Specialist regularly attends and participates in the Journal's News team meetings held every couple of weeks by the News Editor (Associate Director, OCC). The news meetings offer an opportunity for an exchange of ideas between news team and marketing office to compare upcoming journal content, news features, and related topical issues.

A new position (Public Affairs Specialist) was created and filled in the marketing office to focus on the marketing and promotion of the scientific publications of the NCI particularly with regard to GPO liaison. This includes organizing and coordinating campaigns designed to effectively disseminate the publications and information concerning the availability of publications to special groups. Therefore, there are now three staff positions in the ICIC Marketing Office: the Marketing Coordinator, Assistant Marketing Coordinator and a Publications Marketing Specialist.

Miscellaneous

Promotional Materials

To generate more awareness and use of NCI's scientific information services, the Marketing Office develops and produces updated promotional and information brochures, ads, and articles for the health professional involved in cancer research. The Scientific Information Services of the National Cancer Institute, a guide describing all of the scientific products and services of the ICIC and how to obtain them, has been updated and was distributed in May 1989. Print advertisements have been completed for PDQ, Cancergrams, Oncology Overviews and the Journal of the National Cancer Institute. These ads have been placed in the Journal since March 1989 and the marketing staff are in the process of placing these ads in other journals and newsletters. Other materials that have been developed or updated include: PDQ Standard Protocols, PDQuick Reference Guide, PDQ Brochure for Health Professionals, PDQ Fact Sheet and PDQ Questions and Answers for Press and Science Writers.

AMA/Net

Because PDQ became available in June of 1989 through the American Medical Association's AMA/Net system, joint marketing initiatives with the marketing component of AMA/Net are in progress. The AMA announced the availability of PDQ in a press release sent out in June 1989, and a news article was published in the Journal of the National Cancer Institute in July 1989 which reinforced this new availability.

NANCY LOW AND ASSOCIATES, INC. (N01-CO-54051)

Title: Technical Support Services for the International Cancer Information Center (ICIC), National Cancer Institute (NCI)

Contractor's Project Director: J. Michael Cosgrove, PhD

Project Officer: Jean Griffin Baum

Objectives: This project provides a broad range of technical support to the cancer-related information collection and dissemination activities within the ICIC.

Major Accomplishments: During this year, the ICIC closed out the contract work order that the subcontractor was responsible for -- information requests concerning the ICIC's products and services processing, inventory and warehousing of all ICIC publications and information, and preparing bulk materials for mailings and exhibit displays. This work order was closed out because the ICIC consolidated it with the workload of a contractor in the Office of Cancer Communications. The close out was completed in December 1988. All warehoused materials and inventory were boxed up and returned to the ICIC.

Contractor staff provided logistical support for the second annual PDQ User's Group at the Medical Library Association's annual meeting.

Contractor staff performed and completed a telephone survey to various subscribers of the JOURNAL of the National Cancer Institute, and contacted Comprehensive Cancer Center Public Affairs Representatives on how they could assist us in marketing the JOURNAL of the National Cancer Institute at their institutions and provided reports on these activities to the ICIC. An NLA staff member attended ASCO to assist us in working with the ASCO press office to promote articles published in the JOURNAL of the National Cancer Institute and to discuss the general promotion and awareness of the Journal among medical press. The draft of the final report for the OMB-approved survey conducted to evaluate the products and services of the ICIC was unsatisfactory and was resubmitted to the contractor for total revision. Because the contract has run out of funds, the contractor was unable to complete the final report. Nancy Low and Associates has returned all survey materials to the ICIC and we will complete the final report inhouse through use of a consultant.

As of July 30, 1989, remaining work orders on the contract had run out of funds and the contract will close out early, in August 1989 instead of December 1989.

Significance to Biomedical Research Programs of the Institute: This project makes available, as needed, personnel, expertise, and general logistical support in the areas of publications preparation, promotion of products and services, and scientific analysis. This support is essential to the fulfillment of the NCI mandate for rapid collection and dissemination of cancer research information.

Proposed Course: The present contract will continue to serve ICIC through July 1989.

Date Contract Initiated: January 8, 1985

PRODUCTION HOUSE, INC.

Title: Provide logistical support for the National Cancer Institute Office of Cancer Communications (OCC)/ International Cancer Information Center (ICIC) Exhibits Program and OCC Museum Exhibits Program

Contractor's Project Director: Elizabeth Jones

Project Officer: Jean Griffin Baum

Objectives: This contract provides logistical support for the entire NCI exhibit program including: graphics, staffing, research and evaluation of potential medical meeting exhibits, acquisition of all related show services, and exhibit reports.

Major Accomplishments: Provided logistical support for ONS, ASCO, AACR, NTRA, and MLA and will provide support for ICSCO and ASPHO. In addition, provided logistical support for PDQ User Group Seminars at ONS and MLA (see also Exhibits section, ICIC Marketing Office).

Evaluated medical association meetings and suggested appropriate future meetings for ICIC participation.

Analyzed exhibit attendance and produced evaluation reports for ONS, ASCO, AACR, MLA and NTRA exhibits for future reference.

Significance to Biomedical Research Programs of the Institute: The work under this contract allows the NCI to maximize the dissemination of the latest cancer information available from the National Cancer Institute at cancer-related medical meetings and forums.

Proposed Course: The present contract will continue to serve ICIC and OCC through February 1994.

Date Contract Initiated: February 24, 1989

Current Annual Level: Total \$333,243 (ICIC Allotment: \$100,000)

OFFICE OF ADMINISTRATIVE MANAGEMENT
OFFICE OF THE DIRECTOR
NATIONAL CANCER INSTITUTE

Program Activities Report
October 1, 1988 - September 30, 1989

The Office of Administrative Management (OAM) coordinates and manages all administrative activities of the Institute and is headed by the Associate Director for Administrative Management who also serves as Executive Officer. The Office is composed of eight branches: (1) Administrative Services Branch; (2) Extramural Financial Data Branch; (3) Financial Management Branch; (4) Grants Administration Branch; (5) Management Analysis Branch; (6) Management Information Systems Branch; (7) Personnel Management Branch; and (8) the Research Contracts Branch.

Some notable activities of the OAM during the Fiscal Year 1989 include:

- o Throughout the OAM, the various branches made innovative use of automated technology to produce new reports, enhance existing systems, and devise new ways to transfer information electronically. This is exemplified by the redesign of the grant funding control system in the Extramural Financial Data Branch (EFDB); major enhancements to the AIDS budget data system in the Financial Management Branch (FMB); the automation of the grants management worksheet for electronic transfer of information directly to IMPAC files of the Division of Research Grants and the establishment of a bar code system to monitor files, identify overdue reports and generate deficiency letters by the Grants Administration Branch (GAB); the completion of all cabling for Executive Plaza, the procurement of a LAN support contract and the installation of test LAN's as well as the completion of user requirements and design specifications for a pay computation system which will be adopted for all of NIH by the Management Information Systems Branch (MISB); and the automation of the Research Contracts Branch (RCB) 1759 system which will permit direct input of data to IMPAC.
- o Several important and successful analytical studies were completed by the Management Analysis Branch (MAB) aimed at streamlining the operation of the training section of the Personnel Management Branch (PMB) and the Office of the Assistant Director.
- o The Personnel Office initiated an innovative recruitment program, the Open Continuous Announcement System which has greatly enhanced the recruitment hiring process for critically needed support staff.

- o A number of steps were taken by the Administrative Services Branch (ASB) to enhance management in the OD. This included the installation of an FTE forecasting model and an improved budget report system. These reports have greatly assisted the OD managers in the management and allocation of their resources. In addition, an improved meeting structure has been developed with the OD Associate Directors to facilitate the transfer of information.

The achievements of the individual Branches of the Office of Administrative Management are:

Administrative Services Branch

The ASB provides administrative support to the entire Office of the Director which is comprised of the Office of Administrative Management, Office of Cancer Communications, Office of International Affairs, Office of Program Operations and Planning, Office of Technology Development, Office of Laboratory Animal Science, as well as the Immediate Office of the Director. The branch is responsible for general office services, property management for the entire NCI, mail delivery within all NCI offices, maintenance of NCI central files, international travel, domestic travel for the Immediate Office of the Director, domestic travel policy for the Institute, and space management. The ASB serves as a coordinating point for all cross-cutting administrative issues within the Institute.

- o Centralization of Procurement: The Office Services Section of the ASB expanded its staff of purchasing agents to handle all purchasing requirements of the Office of the Director. This was done to bring the OD into compliance with the NIH directive requiring greater control over the procurement process.
- o Contracting-out of Central Files: Preliminary work was completed in the process to award a contract to organize and maintain the NCI central files. The RFP and competitive process was completed this fiscal year and the contract is expected to be awarded in early October, 1989.
- o Property Accountability: Through a concerted effort this year, the Office Services Section has eliminated a substantial backlog of equipment decaling for purposes of maintaining the NCI equipment inventory. Steps are now being taken under the leadership of the Office Services Section to automate equipment inventories within the Institute.
- o Leasing Accountability: A computer software program has been developed by ASB staff to facilitate the tracking of lease renewal agreements for leased equipment throughout the OD. Such a system will assure the timely processing of lease renewal agreements to avoid potential lapses in leases and will assure greater cost accountability of such equipment.

- o Travel: The NCI Travel Office was administratively placed within the Office Services Section of the ASB. The Office was reorganized to focus primarily on foreign travel and was successful in eliminating a substantial backlog of foreign travel vouchers. Through improved tracking systems, these vouchers are being processed in a much more timely fashion, with the number of delinquent notices being received from the NIH sharply reduced. Each NCI division has designated a travel contract, and periodic meetings of these travel coordinators with the central NCI travel office has greatly facilitated communication and dissemination of information relative to both foreign and domestic travel - assuring consistency of policy application across the Institute.
- o FTE and Financial Systems: Each Office and branch with the Office of the Director has been assigned an FTE ceiling as well as a budget for the fiscal year. Complimenting this decentralization policy, the ASB is now making available to these offices, periodic reports detailing expenditures to date and projections for the balance of the fiscal year. An FTE forecasting model has also been developed to assist managers in allocating and managing FTE ceilings assigned to their organizations. Such steps allow the Associate Director/branch chief, greater management control over the resources allocated and significantly enhances the planning capability of these offices.
- o Information Dissemination: The ASB instituted bi-monthly meetings of all OD Associate and Assistant Directors. Such meetings have given a sense of organization to the overall Office of the Director, and have greatly facilitated the dissemination of administrative information to these offices. Such meetings have also provided a means for the OD to prioritize needs and better compete for resources, on equal footing, with the other NCI divisions.

Extramural Financial Data Branch (EFDB)

The EFDB is responsible for maintaining grants financial data, performing the analyses necessary to provide funding guideline recommendations, preparing budgets and advice on grants financial policy decisions, and for making grants financial data available to requestors. In addition, EFDB monitors the Contracts Management System (CMS), Pre-Award Tracking System (PATs), and Contracts Administration System (CAS) in order to provide information system services for program, review, and contracting staff.

- o Budget Formulation and Execution: Funding plans were developed, monitored and modified throughout the year to most effectively expend the appropriation. Special efforts were made in development of the centers and RFA funding plans to maximize the number of awards that could be made within severe budget constraints. EFDB prepared budget formulation grants databases for the 1990 Congressional Justification, 1991 Bypass Budget and the 1991 OMB submission for use by FMB.

- o Analysis Projects: Two important issues this year requiring intensive grants analysis have been the Institute of Medicine study on the NCI Centers program and the switch in payline from raw priority scores to percentiled priority scores. In 1989 the AIDS grant reporting process for NCI was improved, a revised RFA funding policy was developed for initiation in 1990, special studies were made of trends in R01, P01 and FIRST programs, and a paper was written on the new percentile scoring system.
- o Systems Development: Special projects to improve the manner in which EFDB operates included a significant redesign of the grant fund control system implemented in July 1989 six months ahead of scheduled implementation; upgrades to the Contract Management System (CMS) and writing the statement of work for the recompetition of the CMS support contract; attempts to resolve problems with the NIH system for correcting grant obligations in the DFM accounting system and obtaining reports from DRG consistent with the DFM accounting report cut-off dates; transfer of the formulation system for grants projections from the DCRT computers to personal computers; redesign of the grant exception request form to enhance EFDB's ability to track all funding exceptions; review and consolidation of the extensive historical files in EFDB; and development of a system of reports to show statistics on grant applications going to the NCAB for review each round.
- o Administrative Issues: Administrative accomplishments included moving, procuring furniture, automating timekeeping and upgrading personal computer equipment.

Financial Management Branch (FMB)

The FMB is responsible for all aspects of the formulation, presentation and execution of the annual budget for the National Cancer Institute. This encompasses the planning, organizing and directing of a comprehensive financial management program that includes not only the development of formal budget submissions to the Executive and Legislative Branches but also the establishment, evaluation and monitoring of systems for the expenditure of Federal funds. It also collaborates with the Office of Program Planning and Analysis in the development and coordination of the National Cancer Plan.

- o Royalty Funds: Funds identified to the Institute totaled over \$1.7 million from 1987 patent awards. By statute their availability expired September 30, 1989. FMB was required to identify the relevant royalties attributable to each Division's patents, allocate them, and monitor their obligation pattern. The automated operating budget and status of funds reports were modified to provide the capability to accurately identify and monitor royalty income from patents. Modification to the Budget Formulation and Support System was accomplished, thereby providing the capacity to routinely incorporate the budget formulation functions with those of execution.

- o NCI Gift Fund: Completed the transition of gift fund acknowledgment letters and information retrieval to a contract support system; thereby accelerating response time.
- o Budget Formulation and Presentation Support System (BFPSS): The recompetition of the BFPSS contract proceeded smoothly and is on schedule for award in the second quarter of FY 1990.
- o AIDS: All AIDS records and tables for both budget formulation and execution phases were converted to a computer system that reports functional categories based on goals from the Charlottesville meeting and the goals recently developed by Secretary Mason. This included:
 - a) developing a computer application with the flexibility to allow conversion of all 1991 AIDS Preliminary Budget data from one system to the other;
 - b) coordinating collection of AIDS budget data and conversion of AIDS codes for budget formulation and execution among NCI divisions to meet NCI/NIH requirements with timeliness and accuracy but also to eliminate duplication of effort in recoding and undue imposition on Division Administrative Officers;
 - c) converting tables and detailed listings for reporting FY 1989 AIDS quarterly obligations to NIH by code and mechanism based on recently prescribed "Mason" categories. Tables and detailed listings are provided to the divisions, updated by them and combined into an NCI report.
 - The 1991 AIDS preliminary budget request was developed in a PC-based format consistent with NIH requirements and responsive to NCI's needs to be able to track NCI Divisions, NCI research priorities, and AIDS coding changes.
- o Execution: To assist in the establishment of allowances for programs within each division and the resultant tracking of performance against them, the report initiated last year for monitoring performance was modified to reflect improved sorting and categorization by specific divisions.
- o Minority Activities: The Institute developed and submitted to NIH for approval a budget formulation proposal that would clarify our efforts relative to minority programs across the Institute. Such a proposal has the advantage of focusing trans-division and trans-mechanism minority activities.
- o Computerization: Conversion of entire office to PS-2s linked to LAN was accomplished thereby providing greater compatibility and efficiency in branch operations.

Grants Administration Branch (GAB)

The GAB performs all business management aspects associated with the negotiation, award and administration of grant and cooperative agreement programs. GAB participates with the Division Directors and their staffs in the formulation and execution of grant policy, and develops the Institute's position on grant and cooperative agreement management issues. During FY 1989 the NCI issued more than 5,767 award notices for 4,348 grants and cooperative agreements totalling \$966,559 million dollars. About 62 percent of NCI's budget is devoted to grant and cooperative agreement funding mechanisms.

Branch Automation Activities:

- o New Computer Contract: During April of 1989 a new five year computer contract was awarded to The Washington Consulting Group (WCG) in Washington, D.C. This contract provides ADP support services for a variety of computer activities and projects. During the six month period between April and September of 1989 the following was accomplished: 1) developed a transition plan and strategy for implementing GAB's computer projects; 2) activated five task orders which include: Contract Administration; GAB Control List System; GAB PC Award System; GAB Systems Technical Assistance; and GAB Special Projects. A variety of tasks were completed during this period with the majority of the work focusing on the Control List and PC Award System which are the existing priority areas in the branch.
- o Local Area Network Activities: GAB entered into the NCI Pilot Lan Project directed by NCI's Management Information Systems Branch (MISB). GAB connected 12 workstations and after initial testing and configuration GAB plans to add other workstations so that by the end of FY 90 the entire branch (50 staff) should be networked. The LAN will enable the branch to more effectively use our computer resources and will improve communication between program and administrative areas of the institute.
- o Automating Grant Award Activities: The GAB continues to make progress toward the automation of the grant award process. All specialists are using the PC Award System to produce the hard-copy Grants Management System (GMS) worksheet. The hard copy GMS worksheet is used to produce the grant award notice. Currently, three specialists, on a trial basis, are testing the electronic uploading of the completed GMS worksheet to update the IMPAC files, a process which generates a tested version of the award notice. It is expected, by the end of fiscal year 1989 that the PC Award System will be in the functional stages, i.e., it will be able to complete the cycle from the downloading of IMPAC data needed for creating award notices to the uploading of the completed GMS worksheet data to the IMPAC files, as well as to the updating of the transactions needed for creating award notices.

- o Barcode System: The GAB implemented a barcode system to increase our records management efficiency during this fiscal year. A bar code label has been applied to each grant file folder and individual identifying data (grant number - year, years contained in each volume, P.I., business official, institution, address, etc.) entered into the system for each grant. The files are charged out by scanning the barcode label. File location and use is tracked, accurate inventories quickly performed, and the steps in the chargeout process reduced with this system. The barcode system is also used to generate overdue final reports deficiency letters and address labels for the grants closeout process. GAB is in the process of applying the barcode system to our awards process which will be accomplished by applying a barcode label to the awards "working folder" and tracking the stages of the award process through a menu of award actions. Reports on file location, status of applications and awards processing are also generated through the system.
- o Per Patient Reimbursement in Clinical Trials: Three clinical cooperative groups have begun reimbursing participating physicians and institutions for patient accrual on a per patient basis. The NCI has encouraged this approach in groups having difficulty completing clinical trials in a timely manner. In the past we provided funding through individual institutional awards. GAB hopes that this change will stimulate accrual, as well as make the best possible use of federal funds, by reimbursement for actual accrual. It is too early to determine how successful this will be.
- o Move to Executive Plaza: The move to Executive Plaza was a major undertaking for the Branch. It required dismantling, modifying, relocating and reerecting the existing electric mobile files storage system and building additional shelves. The Records Management Center stored and maintained approximately 28,000 grant and contract files during the transition. Due to the detailed advance planning GAB experienced very little down-time.
- o Publications: During FY 89 GAB published a conference summary report entitled Grants Orientation for NCI Program Directors held November 22, 1988. GAB organizes and conducts these training forums periodically for new program directors. The conference summary report was sent to the 50 conference participants and is also sent to new program directors who have subsequently joined the institute. This 21 page report provides an overview of NCI's extramural grants process and highlights the important interrelationships among the many divisions and offices in NCI. This report serves as a valuable overview of the diversified and complex operations involving NCI's extramural research activities. In addition, GAB revised, expanded and reprinted the well known publication entitled National Cancer Institute Grants Process during September of 1989. Because this publication provides the most comprehensive explanation of the grants process in general, it has been in much demand and has been widely distributed both within NIH and among the general grantee community nationwide.

- o GAB Manuals: During FY 89 GAB completed several long standing projects designed to improve our internal operations relating to managing some of our information resources. GAB compiled and organized the following four manuals: GAB Employee Manual; GAB Computer Contract Administration Manual; GAB Computer Applications Manual; and GAB Grants Manual.
- o Training Activities: GAB's commitment to continuing education for both GAB staff and for other NCI staff (i.e., Program Directors) involved in the extramural grant programs is reflected in training activities conducted during FY 89. During November of 1988 GAB organized and conducted a one day orientation conference for new NCI program directors which included 50 participants. GAB sent 20 staff members to the conference entitled "Achieving Excellence in Grants Management", sponsored by the NIH Grants Management Advisory Committee. GAB staff assisted in planning the GMAC conference. In addition, one of GAB's team leaders was a presenter in a Step Module entitled "How can the NIH dollar be stretched to maximize its research impact" held March 21, 1989. About 20 GAB staff participated in the new PHS grants management training courses started through the HHS Grants Management Training Initiative. GAB staff attended the following PHS courses: Legal Underpinnings of Grants/Cooperative Agreements; Grants Process and Particular Duties; Financial Evaluations; Cost Principles; and the Source and Applicability of Administrative Policies. In addition, GAB staff attended a variety of courses offered by DCRT and by NIH's Training Center.

Management Analysis Branch (MAB)

The MAB serves as a staff resource for the Institute providing advice and guidance on the administration and management of the NCI. Specific areas of activity include providing advice on the development, implementation and interpretation of policy and regulations; performance of management studies and surveys; analysis of organizational proposals and provision of advice on organizational structure and the preparation of special analyses and reports on the administrative aspects of Institute operations or programs.

Special Project and Studies:

- o An MAB staff member conducted a Paperwork Management Study in the Training Section, Personnel Management Branch. The primary objective of the study was to improve work methods and reduce the paper burden on the staff while enhancing the service provided to program areas. The majority of the recommendations either have been implemented or are in progress.
- o Developed the guidelines for the Office of Cancer Communications' Health Communications Internship Program and assisted with implementation.

- o Prepared a discussion paper regarding extending the duration of the training period for Biotechnology Training Program Fellows for longer than the authorized three years. The issue was presented to the Executive Committee and the decision to extend the training period in order to allow fellows to complete research assignments was adopted and implemented.
- o Provided comments to Personnel Management Branch on the new Training Handbook. This handbook is designed to provide step-by-step guidance to NCI staff on all aspects of training. The handbook was developed as a result of the Paperwork Management Study.
- o Functioned as in-house source of expertise on Annual Leave Transfer Program. Issued analysis and staff alert when Temporary Program was replaced by new law and regulations.
- o Provided comments on the new FCRF Training Enrichment Program.
- o Performed a survey of "outside" grant support to intramural investigators, including exploring the legal and administrative ramifications of such support. Reported results to the Associate Director for Administrative Management (ADAM).
- o Completed a survey of all NCI space in Building 31. Developed statistical data, identified needs of various offices, and made recommendations on dealing with specific problems.
- o Provided input to the Deputy ADAM on the proposed contract to operate the OD central files operation. This included recommendations for improvements, and assisting with revising the contract work statement.
- o An MAB staff member conducted a Management Analysis Study of the Assistant Director's office. The purpose of the study was to conduct a management review of the functions, responsibilities and organization structure. The primary objectives were to streamline the operation in order to relieve burdens due to excessive responsibilities and reduce the paper burden on the staff. Recommendations are being implemented.
- o Worked with OCC staff on the administrative aspects of printing problems encountered when using GPO. Analyzed the implications of an amendment to the PHS Act that gave Institute Directors the authority to have printing done directly in the private sector. Prepared paper for ADAM citing legal aspects of situation, and several possible approaches for dealing with the problem at NIH level.

Special Reports:

- o Prepared and submitted to NIH the annual OMB Information Collection Budget Request on all proposed NCI information collections from the public for FY 90.

- o Coordinated the preparation and submission of the FY 90 Consultant Services Plan.
- o Provided preparation guidance, collected input, edited, and produced the Institute's FY 89 Report on Administrative Accomplishments which highlights the Institute's many noteworthy achievements in the area of administrative management.
- o Working with the Director, Office of Technology Development, prepared issue paper for July Director's Retreat concerning how NCI should handle licensing of its patents.
- o The new legislation on the Annual Leave Transfer Program, includes an option for agencies to set up a "Leave Bank". PMB received correspondence from OPM about this option and MAB was asked to evaluate it. MAB prepared a report to PMB, recommending that NCI not become involved in a "Leave Bank".

Organizational Changes:

- o Provided advice and consultation to concerned staff on the policy, procedures, theory, and practice involved in organization change. In addition, reviewed and processed 16 other organizational changes in the various Divisions of the NCI.
- o Prepared analyses and charts on staffing patterns of organizational units within NCI for the last three years. Results were presented to Executive Committee, and policy decision was made. Subsequently, a survey was done to analyze lab/branch level staffing.
- o Information Collection from the Public - (The Paperwork Reduction Act of 1980, P.L. 96-511:

The MAB provided advice and guidance to program staff on proposed information collections from the public. Assistance provided included: advice on the applicability of OMB regulations to proposed collection efforts; presentations (to program staff, contractors and principle investigators) at several Division meetings/seminars; assistance with the preparation and processing of necessary OMB clearance documentation; and liaison with other governmental echelons to secure approval of proposals. Seventeen OMB requests were reviewed and submitted to PHS/HHS/OMB for approval.

Manual Issuances and Policies:

- o Updated and distributed to Administrative staff several policy changes for the NCI Training and Fellowship Programs Handbook.

- o Worked with Deputy ADAM on revision of policy on Joint Endeavors. Involved considerable research and analysis, and preparation of an issue paper. MAB's recommendations were implemented, with respect to advocating a major change at the NIH level.
- o Coordinated policy aspects of the first EPMS Awards payout, and continue to work on PMRS system. Completed and distributed a Manual Issue on NCI EPMS Policy (Manual Issuance 2300-430-1).
- o Designed a new form for requesting organizational changes, and revised and reissued the NCI policy on organization change. (Manual Issuance 1121).
- o Working with PMB staff, prepared and distributed revised delegation of authority on training approval. (Personnel No. 7).

Management Information Systems Branch (MISB)

The MISB provides guidance and consultation for the Institute on the selection, application, and use of automatic data processing (ADP) and office automation (OA) technology; determines requirements, designs, implements and maintains specific application systems; advises the Institute on the technological and policy impact of developments in ADP and OA; and coordinates the Institute's Information Resources Management (IRM) activities.

- o Support for NCI/NICHD Local Area Networks (LANs):
 - Cabling of the Executive Plaza facility (both the North and South Towers) was completed. Approximately 1100 outlets have been installed in the two towers as well as a Token Ring backbone ring to connect all floors and an Ethernet backbone for connection to a VAX.
 - Procurement of LAN support contract was completed after award.
 - The Project Plan for the LAN hardware and software procurement was completed. Consultation on hardware requirements was provided to DCE, EFDB, GAB, DCBD and NICHD for pilot LANs pending award of this contract.
 - Test LANs were installed in MISB (Bldg. 31) and in MISB (EPN). These LANs are used to provide hands-on experience to MISB staff, to test new software prior to installation on production LANs and to provide MISB with file and printer sharing and electronic mail.
 - Pilot LANs were installed in DCPC and NICHD. These pilots are being used to test various installation standards and procedures in the user environment.

- MISB arranged a loan of Synoptics equipment from DCRT and installed it on the 8th floor of EPN. This equipment permits existing cable to be used for Ethernet as well as Token Ring networks and is currently used to allow graphics terminals in the Developmental Therapeutics Program to access a VAX at the Frederick Cancer Research Facility via the Ethernet backbone.
 - Communication facilities were installed in the two MISB LANs, the LAN in the Office of the Director, and the pilot LANs in DCPC and NICHD. These facilities allow the transfer of electronic mail and files among these LANs as well as with any other appropriately equipped 3COM LAN.
 - The requirements analysis data collection for NCI/NICHD LANs was initiated. A questionnaire was developed and distributed to all NCI/NICHD LAN contacts in Executive Plaza and interviews were conducted with the Executive Officer, the Deputy Executive Officer, and selected Administrative Officers from both Institutes. Interviews with key program and OD staff and managers of central systems was also begun.
 - Several software packages for LAN installation, including calendaring packages and LAN utilities, were evaluated for their ability to meet specific user requirements and/or for enhancement of the LAN.
 - Maintenance, backup and administrative support was provided to the LAN in the Immediate Office of the Director.
 - MISB initiated the convening of an NIH work group to develop standards for LAN Administrators and a career path to lead to that position, and provided the primary technical input to the development of sample position descriptions. These position descriptions have been accepted by a working group of the NIH Personnel Officers and distributed throughout NIH for comment.
 - MISB actively participated in the NIH Office Technology Coordinator's Connectivity Work Group. Currently, this group is the primary avenue for BID input to DCRT's plans for development of LANs at NIH.
- o Pay Computation System: User requirements and design specifications were completed for a system that will calculate income, deductions, and taxes for civil service and Commissioned Corps employees. The system is menu driven, provides data entry screens for employee data, generates formatted reports, displays selected reference tables, and archives input and output data for a finite period of time. Specifications were reviewed with NIH's Division of Personnel Management, NIH funds were provided for implementation, and steps were initiated to implement the system on a NIH-wide basis.

- o User assistance: ADP and OA assistance continues to be provided to users throughout the Institute, primarily for personal computers (PCs). While some questions were resolved over the telephone, others required more formal systems analysis, extensive follow-up or third-party consultation. Frequently user assistance calls revealed broader issues or potential problems not recognized by the user. In these instances, additional study was suggested and recommendations made to improve the current situation and prevent new problems. Typical activities in this area included:
 - Maintaining a collection of the most useful self-supporting DOS and WP utilities for users.
 - Maintenance of state-of-the-art hardware specifications for staff who wish to buy AT-compatible computers.
 - Technical assistance to users with a rapidly-increasing number of disk crashes and miscellaneous hardware failures as PCs age.
 - Modifying and developing additional documents in a series of user advice handouts on common problems such as: use of laser printers, 386 computers, and updating XT's.
 - Review of available literature and/or evaluation/testing of commercial software and hardware for use in NCI environment.
 - Initiating an informal PC spare components exchange for NCI users.
 - Preparing a series of DOS utility disks for MISB user assistance and modifying a series of rapid-installation disks for WordPerfect, Lotus 1-2-3, Symphony and ProComm Plus.
 - Preparing software and procedures to allow staff to download and upload files from Wylbur to WordPerfect using a variety of communications programs.
 - Assisting NCI staff in installing and configuring the new AT&T 2224 CEO modems available from NIH.
 - Assisting NCI staff with use of an optical character reader to convert hard copy information to ASCII files when the original files were either lost or destroyed or the information was available only in hard copy.
 - Installing hardware.
 - Assisting in management of DCRT data sets and use of WYLBUR and TSO.

- o EPMS Payouts: MISB participated in planning and execution of the first year of cash awards under EPMS including developing expertise in NIH-developed software, preparing and conducting user training sessions, resolving user problems and coordinating use of the software in the Office of the Director.
- o WordPerfect 4.2 and 5.0 Support:
 - Began support for WordPerfect 5.0. Designed and developed an automatic installation of WordPerfect 5.0 for use in NCI until WordPerfect improved its INSTALL program. A simplified version of the installation software is being maintained to facilitate installations by MISB staff.
 - Maintained latest DOS and WordPerfect bug lists and program updates by locating, downloading, extracting, filing, and distributing programs and enhancements from PC bulletin board services.
 - Developed a curriculum for NCI-sponsored course in WordPerfect 5.0 and for the transition from version 4.2 to 5.0.
 - Established and began testing with a small group of users a simple NCI microcomputer bulletin-board system with file transfer capabilities; this system provides unattended user support and file updates for WordPerfect.
- o The EPMS Performance Plan System: Developed by NIAID for networks, this system was modified to execute in a stand-alone environment and installed for testing; memory and printer assignment problems were resolved, and corresponding documentation changes made.
- o Grant Applications Logging System (LOGS): LOGS was modified to provide faster data entry, identify and mark problem records, reformat the Duplicate Records and File Reports, facilitate running all batch reports at discount, consolidate all data in a single account, eliminate an auxiliary SAS file so that data could be moved directly from LOGS to the IMPAC file, replace the costlier SAS Reports with direct reports from IMPAC, and precompile all WYLBUR Command Procedures.
- o NCI Personnel Data System: MISB staff participated in a working group to determine whether data on individuals who are not government employees but receive support from the NCI should be integrated into the monthly personnel system, how this data could be obtained, and whether other system enhancements were required.
- o Office of Cancer Communications: Assistance was provided to OCC in purchasing and installing modems, communication software and using the DCRT Protocol Conversion Facility to access the Freedom of Information System.

- o Maintenance of MIS Systems: System modifications and enhancements were provided on a continuing basis for MISB-developed software. These modifications reflected changes in DCRT's operating environment, annual changes in the accounting structure, changes in interfacing systems and user requirements, and improved methods of operation.
- o Information Resources Management (IRM) Activities: MISB worked with the Division of Management Policy to develop the strategy for the NIH call for the IRM Strategic Plan and then developed the NCI portion of the plan incorporating materials provided by the Office of Program Operations and Planning and the Divisions.

MISB actively participated with DCRT and other representatives of the Lead User community to restructure DCRT's Lead User Program to better meet the needs of the NIH PC user community while reflecting the varied structure of user support in the BIDs.

MISB encouraged the establishment of DRG's IRM Contacts to facilitate the exchange of information between DRG and the BIDs on automation activities associated with the grants review process.

MISB provides the chairman of the Agenda Committee for this group and has convened a group of NCI staff representing DEA, EFDB, GAB and program staff to provide Institute-wide input to the DRG Committee.

- o Technology Transfer: MISB continues to assist other Institutes or agencies by the transfer of software and procedures. During the past year MISB consulted with NHLBI on a modification in their use of NCI's Full Time Equivalency System and provided a copy of the Committee Management Information Report System to ADAMHA; this latter system facilitates the generation and printing of reports from DRG's Committee Management Information System.

Personnel Management Branch

The PMB provides central personnel management services for the NCI including policy development, training, work force planning, recruitment, employee development, salary administration, and equal employment opportunity (in collaboration with the NCI EEO Officer.)

Significant managerial accomplishments are itemized as follows:

- o In response to Executive Order No. 12674 dated April 12, 1989, in which the President restated the Principles of Ethical Conduct for Government Officers and Employees, PMB planned and coordinated (in collaboration with the NCI Ethics Counselor) for the Director, NCI, training on Standards of Conduct for NCI senior staff. The response of NCI employees was significant...463 employees registered for the training. The training was conducted by the Office of the General Counsel, Office of the Secretary, HHS.

- o PMB initiated a new recruitment program, the Open Continuous Announcement System (OCAS), which makes the hiring process for current and non-Federal employees simpler, faster, and more productive. OCAS covers certain high turnover occupations, and allows applicants to submit only one application for each occupation for which they wish to be considered. Applications are referred for all vacancies in the targeted occupations for which the candidates are qualified during the announcement period, typically three months. Under OCAS, selecting officials may immediately receive a certificate of eligibles comprised of the applicants who are currently on file.
- o In response to the greatly increased need for computation of compensation packages and net pay for new employees, PMB initiated and designed, in collaboration with the NCI Management Information Systems Branch, an automated system to compute compensation package comparisons for various levels of the General Schedule, Commissioned Corps, and the Senior Executive Service. The system design has been completed. Because this new system has applicability for use by personnel and administrative staff NIH-wide, the Director, Division of Personnel Management, NIH, approved NCI's request for DPM funding of the programming the system.
- o To provide and support the human resources required to meet NCI program goals, PMB designed and implemented a Personnel Management Specialist Intern program, the first such program at NIH. Interns receive two years of intensified development to prepare them to perform as highly skilled personnel professionals. In January 1989, two individuals were selected to participate in the Program.
- o In cooperation with the NCI EEO Officer, PMB designed a new computer generated report for use in tracking NCI's Schedule A disabled employees. Disabled employees on these appointments maybe considered for noncompetitive conversion to competitive status after two years of successful performance. The report provides an efficient method for alerting supervisors when these employees are eligible for noncompetitive conversion.
- o To streamline personnel procedures for the Stay-in-School Program, PMB was successful in obtaining approval from the NIH Division of Personnel Management (DPM) to delegate to the BID Personnel Offices, the authority to approve personnel actions for Stay-in-School employees. Previously, the approval was exercised centrally in DPM.
- o PMB staff conducted a study of the effectiveness of the NCI Cooperative Education Program and made a recommendation to the NCI Associate Director for Administrative Management to continue the program as an integral part of NCI's recruitment activities. The study included surveying the experiences of former and current NCI COOP participants, interviews with NCI senior administrative staff,

and data collection and analysis pertaining to applications received, selections, conversions to competitive appointments, and the resources required to administer the program.

- o Using the PMB Employee Training System, PMB developed a computer generated report for monitoring employee compliance with the requirements for reporting on outstanding training actions (i.e, approved training for which the status is unknown). The report provided an efficient method for PMB and administrative staff to determine the status of outstanding actions.
- o PMB initiated a paperwork management analysis study of the Training Section by the NCI Management Analysis Branch. The objective of the study was to enhance office productivity and efficiency by reducing the paperwork burden on staff. Many of the recommendations of the study were adopted and implemented.
- o To evaluate the efficiency of the personnel records management services provided by the Maxima Corporation and to ensure regulatory compliance, PMB conducted an evaluation of this activity. The findings of the evaluation showed that the contractor's overall performance is efficient and in compliance with U.S. Office of Personnel Management regulations.
- o To enhance personnel services to NCI extramural programs and components of the Office of the Director located at Executive Plaza (EP) in Rockville, PMB established an Operations Unit at EP.

Research Contracts Branch (RCB)

The RCB participates in developing policies on the Institute research contract programs; develops guidelines, procedures and controls to promote compliance with policy and sound contracting practices; provides contract management services for all Institute research contracts; and implements automated Institute contract management systems.

- o Small Business Innovative Research Program (SBIR): Last year a contract team was established in the RCB Office of the Chief for the SBIR Phase I contract program. The purpose of this centralization was to provide better communication and control within in program and also to permit a more effective collection of SBIR data. It is apparent that other benefits were also associated with this centralization. In previous years, under a decentralized process, very few of the Phase I SBIR contracts were awarded within six (6) months after receipt of proposals, as required under the Small Business Administration's (SBA) regulations. During this fiscal year, all Phase I proposals, scheduled for award, were made within the time frame specified by the SBA.
- o Automated Systems: Several revisions to existing systems and two (2) new systems were put in place during the current fiscal year.

- The automated 1759 system developed in concert with the Heart, Lung, and Blood Institute, was delayed by several months last year and is currently in place. The system is very effective and has been well received within the branch. Plans are to direct input data to IMPAC during the next fiscal year.
 - A new system was installed in July which permits easy access to the Federal Acquisition Regulations (FAR). The system permits retrieval of the regulations by either paragraph number or by key word.
 - In July, a new statute, the Procurement Integrity Act, came into effect. This Act results from the "Ill Winds" investigation in the Department of Defense regarding improper release of procurement information to the private sector. A part of the Act, requires that specific information with respect to Government officials involvement in the procurement process be maintained and easily accessed. A new data base has been developed for this purpose and should be in place by the end of August.
- o Procurement Integrity Act: The Act mentioned above places numerous responsibilities and restrictions on Procurement Officials with respect to protection of confidential information, employment after federal service, and the overall conduct of the procurement process. The RCB has taken the lead in the implementation of this Act within the Institute and in the training and certification of Government employees who are involved in the procurement process.
 - o Station Support Contracts: Due to a lack of resources within the NIH Division of Procurement, RCB has been asked to assist in the award in several NCI station support contracts.
 - o Policy Revisions: A major change was issued this year to the NCI Orange Book. The requirement for a Source Evaluation Group (SEG) was thoroughly evaluated and analyzed and as a result, several instances were identified where RCB believe it was not necessary to have a SEG. The policy was issued in July and has been very well received by the Divisions.

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